

MEMBERS OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

Illinois
University of Illinois, College of Pharmacy, Chicago. (1908)
Earl R. Series, Dean
(Earl R. Series, E. H. Wirth, George A. Webster, Ralph E. Terry, Ralph F. Tugbt, E. N. Gatherson)

Indiana
Indianapolis College of Pharmacy, Indianapolis. (1927)
Edward H. Niles, Dean
(Edward H. Niles, F. E. Robbins, L. P. Jones, E. E. Swanson)
Purdue University, School of Pharmacy, Lafayette. (1901)
Glenn L. Jenkins, Dean
(Glenn L. Jenkins, C. O. Lee, H. George DeKey, C. E. Walden, M. L. Smoot, J. E. Christian, Fred Semanick, Mary Jeanne Noonan)

Iowa
Iowa University, College of Pharmacy, Des Moines. (1942)
George E. Crossen, Dean
(George E. Crossen, Walter G. Fendell)
Iowa University of Iowa, College of Pharmacy, Iowa City. (1901)
Rudolph A. Kuever, Dean
(Rudolph A. Kuever, L. C. Boyd, James W. Jones)

Kansas
University of Kansas, School of Pharmacy, Lawrence. (1900)
Allen Reese, Dean
(Allen Reese)

Kentucky
Louisville College of Pharmacy, Louisville. (1900)
Gordon L. Curry, Dean
(Gordon L. Curry, Ferdinand D. Stoll, Earl Geluchetti)

Louisiana
Louisiana University, New Orleans College of Pharmacy, New Orleans. (1901)
John F. McCloskey, Dean
(John F. McCloskey, Edward J. Ireland, Louis A. Wilson)
Xavier University, College of Pharmacy, New Orleans. (1928)
Lawrence F. Ferring, Dean
(Lawrence F. Ferring, Charles J. Kelly)

Members of the Association.
Representatives of the 1944 meeting.

THE AMERICAN JOURNAL
— OF —
PHARMACEUTICAL EDUCATION

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Number 4

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Editorial Office: College of Pharmacy, University of Nebraska, Lincoln 8, Nebraska. Address all communications to the Editor.

Places of Meeting

1. Richmond, Va., May 8-10, 1900
 2. St. Louis, Mo., September 19-20, 1901
 3. Philadelphia, Pa., September 12-15, 1902
 4. Mackinac Island, Mich., August 3-5, 1903
 5. Kansas City, Mo., September 7-8, 1904
 6. Atlantic City, N. J., September 5-7, 1905
 7. Indianapolis, Ind., September 5-6, 1906
 8. New York, N. Y., September 4-5, 1907
 9. Hot Springs, Ark., September 8-10, 1908
 10. Los Angeles, Calif., August 17-18, 1909
 11. Richmond, Va., May 4-5, 1910
 12. Boston, Mass., August 16-17, 1911
 13. Denver, Colo., August 20-22, 1912
 14. Nashville, Tenn., August 20-21, 1913
 15. Detroit, Mich., August 25-26, 1914
 16. San Francisco, Calif., August 6-7, 1915
 17. Philadelphia, Pa., September 1-2, 1916
 18. Indianapolis, Ind., August 27-28, 1917
 19. Chicago, Ill., August 12-13, 1918
 20. New York, N. Y., August 25-26, 1919
 21. Washington, D. C., May 5-6, 1920
 22. New Orleans, La., September 5-6, 1921
 23. Cleveland, Ohio, August 14-15, 1922
 24. Asheville, N. C., September 3-4, 1923
 25. Buffalo, N. Y., August 25-26, 1924
 26. Des Moines, Iowa, August 24-25, 1925
 27. Philadelphia, Pa., September 13-14, 1926
 28. St. Louis, Mo., August 22-23, 1927
 29. Portland, Me., August 20-21, 1928
 30. Rapid City, S. Dak., August 26-27, 1929
 31. Baltimore, Md., May 5-6, 1930
 32. Miami, Fla., July 27-28, 1931
 33. Toronto, Canada, August 22-23, 1932
 34. Madison, Wis., August 28-29, 1933
 35. Washington, D. C., May 7-8, 1934
 36. Portland, Ore., August 5-6, 1935
 37. Dallas, Texas, August 24-25, 1936
 38. New York, N. Y., August 16-17, 1937
 39. Minneapolis, Minn., August 22-23, 1938
 40. Atlanta, Ga., August 21-22, 1939
 41. Richmond, Va., May 6-7, 1940
 42. Detroit, Mich., August 18-19, 1941
 43. Denver, Colo., August 17-18, 1942
 44. Columbus, Ohio, September 9-10, 1943
 45. Cleveland, Ohio, September 7-8, 1944
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Past Officers of the Association

PRESIDENTS

*Albert A. Prescott.....1900-01	Charles W. Johnson.....1923-24
*Joseph P. Remington.....1901-02	*Washington H. Zeigler.....1924-25
*Edward Kremers.....1902-03	Edward H. Kraus.....1925-26
*Henry H. Rusby.....1903-04	David B. R. Johnson.....1926-27
*George B. Kauffman.....1904-05	Edward Spease.....1927-28
*Henry M. Whelpley.....1905-06	Andrew G. DuMez.....1928-29
James H. Beal.....1906-07	J. Grover Beard.....1929-30
*John T. McGill.....1907-08	Julius W. Sturmer.....1930-31
*Henry P. Hynson.....1908-09	Townes R. Leigh.....1931-32
*William M. Searby.....1909-10	Charles H. Stocking.....1932-33
*Julius O. Schlotterbeck.....1910-12	L. D. Havenhill.....1933-34
Albert H. Clark.....1912-13	Ernest Little.....1934-35
*Albert Schneider.....1913-14	Robert C. Wilson.....1935-36
Frederick J. Wulling.....1914-15	*Theodore J. Bradley.....1936-37
*Harry V. Arny.....1915-16	*William G. Crockett.....1936-37
Rufus A. Lyman.....1916-17	Hugh R. Muldoon.....1937-38
*Henry Kraemer.....1917-18	Earl R. Serles.....1938-39
*Charles B. Jordan.....1918-19	Charles H. Rogers.....1939-40
Wortley F. Rudd.....1919-20	H. Evert Kendig.....1940-41
Wilber J. Teeters.....1920-21	Rudolph A. Kuever.....1941-42
Clair A. Dye.....1921-22	Howard C. Newton.....1942-43
*Charles H. LaWall.....1922-23	Forest J. Goodrich.....1943-44

VICE-PRESIDENTS

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*Edward Kremers.....1901-02	Robert P. Fischelis.....1924-25
*Henry H. Rusby.....1902-03	J. Grover Beard.....1925-26
*George B. Kauffman.....1903-04	Andrew G. DuMez.....1926-27
*C. Lewis Diehl.....1904-06	Henry M. Faser.....1927-28
*John T. McGill.....1906-07	Charles E. F. Mollett.....1928-29
*Clement B. Lowe.....1907-08	Earl R. Serles.....1929-30
*Alvisio B. Stevens.....1908-09	Henry A. Langenhan.....1930-31
*Elie H. LaPierre.....1909-10	Edward D. Davy.....1931-32
Wilber J. Teeters.....1910-11	Robert C. Wilson.....1932-33
Albert H. Clark.....1911-12	Ernest Little.....1933-34
*Albert Schneider.....1912-13	Antone O. Mickelsen.....1934-35
Edsel A. Ruddiman.....1913-14	Homer C. Washburn.....1935-36
*Harry V. Arny.....1914-15	*William G. Crockett.....1936-37
Rufus A. Lyman.....1915-16	Elmer L. Hammond.....1937-38
*Theodore J. Bradley.....1916-17	James M. Dille.....1938-39
*Charles E. Caspari.....1917-18	Marion L. Jacobs.....1939-40
William Mansfield.....1918-19	Eugene O. Leonard.....1940-41
Julius A. Koch.....1919-20	Perry A. Foote.....1941-42
*Washington H. Ziegler.....1920-21	A. B. Lemon.....1942-43
Evander F. Kelly.....1921-22	Henry S. Johnson.....1943-44
Charles H. Stocking.....1922-23	

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*Wymond H. Bradbury.....1900-01	Wilber J. Teeters.....1913-17
*Wilbur L. Scoville.....1901-04	*Theodore J. Bradley.....1917-22
*Julius O. Schlotterbeck.....1904-08	Zada M. Cooper.....1922-42
*George C. Diekman.....1908-10	Clark T. Eidsmoe.....1942-
Charles W. Johnson.....1910-13	

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James H. Beal.....1900-03	*Charles B. Jordan.....1923-36
*Henry M. Whelpley.....1903-05	Ernest Little.....1936-41
*William A. Puckner.....1905-08	Charles H. Rogers.....1941-43
Julius A. Koch.....1908-19	B. V. Christensen.....1943-
*Henry Kraemer.....1919-20	*Deceased
Rufus A. Lyman.....1920-23	

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VICE PRESIDENT

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SECRETARY-TREASURER

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EARL R. SERLES.....	1945.....	<i>Chicago, Illinois</i>
TROY C. DANIELS.....	1946.....	<i>Berkeley, California</i>
CHARLES H. ROGERS.....	1946.....	<i>Minneapolis, Minnesota</i>
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Past President.....		<i>Seattle, Washington</i>
GLENN L. JENKINS, President.....		<i>Lafayette, Indiana</i>
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President-Elect.....		<i>New Haven, Connecticut</i>

Member Ex-Officio, without vote

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ELMER H. WIRTH.....	1946.....	<i>Chicago, Illinois</i>
ELMER L. HAMMOND.....	1947.....	<i>Oxford, Mississippi</i>
L. WAIT RISING.....	1948.....	<i>Seattle, Washington</i>
GEORGE L. WEBSTER.....	1949.....	<i>Chicago, Illinois</i>
ELDIN V. LYNN.....	1950.....	<i>Boston, Massachusetts</i>
JOSEPH B. BURT.....	1951.....	<i>Lincoln, Nebraska</i>

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HENRY S. JOHNSON..... *New Haven, Connecticut*

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ZADA M. COOPER..... *Villisca, Iowa*

Committee Appointments for 1944-1945

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District No. 2 (N. Y., N. J., Delaware, Penna., Maryland, D. C., Va. and W. Va.)
L. F. Tice, Emil P. Martini
District No. 3 (N. C., S. C., Ga., Fla., Ala., Miss., Tenn., Puerto Rico)
L. S. Blake, Lehman M. Alley
District No. 4 (Ill., Ind., Ky., Mich., Ohio, Wis.)
G. L. Curry, Oscar Voetteler
District No. 5 (Iowa, Minn., Nebraska, N. Dak., S. Dak.)
F. J. LeBlanc, Victor E. Feit
District No. 6 (Ark., Kan., La., Mo., Okla., Texas)
A. F. Schlichting, Charles Dana Gibson
District No. 7 (Idaho, Mont., Oregon, Wash., Wyo., Alaska)
A. Ziefle, Ray L. Price
District No. 8 (Ariz., Calif., Colo., Nev., N. Mex., Utah)
D. W. O'Day, Ralph E. Kemp
2. **Committee on Libraries**
Charles O. Lee, Chairman; George Urdang, P. J. Jannke, Edward J. Ireland, Lee F. Worrell
3. **Committee on Activities for Alumni**
Thomas D. Rowe, Chairman; Herman O. Thompson, Roy A. Bowers, Linwood F. Tice, John J. Eiler
4. **Committee on Problems and Plans**
Rufus A. Lyman, Chairman; Leslie B. Barrett, Charles W. Bauer, Roy A. Bowers, Edward A. Brecht, Henry M. Burlage, Louis W. Busse, Elmon L. Cataline, George E. Crossen, H. George DeKay, James M. Dille, Melvin F. W. Dunker, John J. Eiler, Karl J. Goldner, Earl P. Guth, George W. Hargreaves, Lloyd W. Hazelton, L. David Hiner, James W. Jones, Karl L. Kaufman, David W. O'Day, Elmer M. Plein, W. Arthur Purdum, Kenneth Redman, L. Wait Rising, Thomas D. Rowe, Arthur E. Schwarting, Joseph B. Sprowls, Ernest T. Stuhr, W. Taylor Sumerford, C. H. Waldon, Allen I. White, Charles O. Wilson and Louis C. Zopf.
5. **Committee on Status of Pharmacists in the Government Service***
D. B. R. Johnson, Charles H. Rogers, Henry S. Johnson
6. **Committee on Education and Membership Standards**
Henry S. Johnson, Chairman; William A. Jarrett, P. H. Dirstine, J. Allen Reese, Arthur E. James
7. **Delegates to the American Council on Education**
Wortley F. Rudd, 1945; Rufus A. Lyman, 1946; Bernard V. Christensen, 1947

8. Committee on Pharmaceutical Research

E. V. Lynn, Chairman; Ole Gisvold, Henry M. Burlage, Louis Fischer, L. D. Hiner, P. A. Foote, Haakon Bang, L. W. Busse, Wm. A. Purdum, Ralph F. Voight, L. D. Edwards

SPECIAL COMMITTEES

A. Committee on Predictive and Achievement Tests

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B. Committee on Professional Relations

P. A. Foote, Chairman; John F. McCloskey, Elmer H. Wirth, R. A. Kuever, Harry L. Kendall, Elmer M. Plein, Hugh C. Muldoon, Troy C. Daniels

C. Committee on Distributive Education

E. R. Serles, Chairman; A. H. Uhl, A. Hamilton Chute

D. Committee on Personnel Problems

J. Allen Reese, Chairman; Edward Brecht, Thomas D. Rowe, F. J. LeBlanc, Hugh C. Vincent

E. War Emergency Advisory Committee

Andrew G. DuMez, Chairman; Wortley F. Rudd, F. J. Goodrich, Hugh C. Muldoon, Glenn L. Jenkins (ex-officio), B. V. Christensen (ex-officio)

F. Committee on Scholarships (Endowment)

Ernest Little, Chairman; Evert Kendig, E. R. Serles, H. C. Newton, F. J. Goodrich

G. Committee on Teachers' Conferences

John F. McCloskey, Chairman. Lawrence Ferring, Ole Gisvold, Elmer M. Plein, L. David Hiner

H. Committee on Post War Planning

Robert C. Wilson, Chairman; R. A. Lyman, George A. Webster, B. V. Christensen, H. M. Burlage, Leslie B. Barrett, R. A. Kuever, Troy C. Daniels

I. Committee on Limit of Enrollments

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J. Committee on Five Year Curriculum

Ivor Griffith, Chairman; Howard C. Newton, F. H. Dirstine, E. L. Hammond, Glenn L. Jenkins

SPECIAL APPOINTMENTS

Representatives to the American Council on Pharmaceutical Education

Townes R. Leigh, 1946; Ernest Little, 1948; Andrew G. DuMez, 1950

Representatives to the National Drug Trade Conference

J. Lester Hayman, 1945; Howard C. Newton, 1946; Ernest Little, 1947

Representatives to the Druggist Research Bureau

Paul C. Olsen, Chairman; E. R. Serles, Joseph H. Goodness

Delegates to the House of Delegates of the American Pharmaceutical Association

Glenn L. Jenkins (Voting Delegate), Hugh C. Muldoon, Henry S. Johnson

Representatives to the National Wholesale Druggists' Association

Hugo Schaefer, Charles W. Ballard (Alternate)

Representative to the National Association of Retail Druggists

Earl R. Serles

**Directors of the American Foundation for Pharmaceutical Education
(representing the A. A. C. P. but elected by the Foundation)**

B. V. Christensen, 1945; H. Evert Kendig, 1946; Ernest Little, 1949

OFFICERS OF TEACHERS' CONFERENCE

Conference of Teachers of Pharmacy

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Conference of Teachers of Chemistry

Ole Gisvold, Chairman; H. G. Hewitt, Vice-Chairman; Ray S. Kelly, Secretary

Conference of Teachers of Pharmacognosy and Pharmacology

L. D. Hiner, Chairman; Ralph F. Voight, Vice-Chairman; L. F. Jones, Secretary

Conference of Teachers of Pharmaceutical Economics

Lawrence F. Ferring, Chairman; Joseph H. Goodness, Secretary

*This committee consists of twelve members, three each representing the A. Ph. A., the A. A. C. P., the N. A. B. P., and the N. A. R. D. Each association names its own representatives but the chairman of the joint committee is named by the president of the A. Ph. A.

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The American Journal of Pharmaceutical Education

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Airston, Margaret.....	University of Southern California
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Ambroz, Walden F.....	Indianapolis College of Pharmacy
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Bedworth, Wilfrid J.....	University of Buffalo
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Cooper, Chauncey I.....	Howard University
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Goldner, Karl J.....	University of Tennessee
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Hargreaves, George W.....	Alabama Polytechnic Institute
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Johnson, Carl H.....	University of Florida
Johnson, William W.....	University of Mississippi
Kelly, Charles J.....	Xavier University
Kerker, Eleanor.....	Columbia University
Kimura, Kazuo K.....	University of Nebraska
Kopet, Jerry.....	Montana State University
Kramer, John E.....	Philadelphia College of Pharmacy
McFadden, G. Horace.....	Ohio Northern University
Mantz, Harry W.....	Temple University
Martin, Lewis E.....	University of Illinois
Mason, Arnold E.....	Creighton University
Melendez, Esteban N.....	University of Puerto Rico
Morrison, Robert W.....	University of South Carolina
Netz, Charles V.....	University of Minnesota
Odney, Kathryn C.....	North Dakota Agricultural College
Ohmart, Leslie M.....	Massachusetts College of Pharmacy
Prout, William A.....	Medical College of the State of South Carolina
Reyes, Feliciana.....	University of the Philippines
Rising, L. Wait.....	University of Washington
Rist, Walter.....	St. Louis College of Pharmacy
Rivard, W. Henry.....	Rhode Island College of Pharmacy
Rowe, Thomas D.....	Medical College of Virginia
Slone, Earl P.....	Louisville College of Pharmacy
Sprowls, Joseph B.....	University of Colorado
Stuhr, Ernst T.....	Oregon State College
Sumerford, W. Taylor.....	University of Georgia
Swinyard, Ewart A.....	University of Idaho, Southern Division
Tingle, Helen McD.....	George Washington University
Trupp, Malcolm S.....	Western Reserve University
White, Alfred J.....	Fordham University
White, Allen I.....	State College of Washington
Wilson, Stephen.....	University of Pittsburgh





GLENN LLEWELLYN JENKINS
President 1944-1945

Glenn Llewellyn Jenkins

Thomas Jenkins came from Wales to America as a boy with three brothers, a sister, and his parents in 1852. The family became established on a farm near Bangor in the beautiful and fertile hills east of the Mississippi River in southwestern Wisconsin. Thomas, the oldest son, later purchased a farm in Pleasant Valley near the original family homestead and the village of Leon. He met and married Laura Elizabeth Rathbun of English-Scotch-Irish descent, the daughter of a farmer. Gathorne M., the oldest child, was born in 1890, Lyel N. in 1892, Meleta L. in 1894, Hallet T. in 1896, and the youngest, Glenn Llewellyn, on March 25, 1898. Two of these children are now practicing law, Gathorne in Missouri and Lyel in Wisconsin. Hallet, a partly disabled veteran of World War I, after serving as county sheriff for four years, became a Wisconsin dairy farmer. Meleta is the wife of a professor of Agricultural Economics at the University of Idaho. The mother, now 77 years of age, continues to live on the home farm in Wisconsin, where since her own children reached maturity, she has raised and given the benefit of an education to three children from the Wisconsin State School.

It was in this farm environment that Glenn Llewellyn Jenkins grew up and received his primary education in the district school. The regular routine of his childhood years consists of farm chores, especially milking cows, then school, and then more chores. Nevertheless, there was time for trout fishing in the spring fed stream that ran through the farm, for trapping and hunting, for reading, and for regular attendance on Sundays at the Congregational Church three miles away. In 1914 he entered the high school at Sparta, Wisconsin, and earned his board and room working for a general practitioner of medicine, cutting the grass, shovelling the walk, milking the cow, tending the horses, and overhauling the Model T Ford, and occasionally went on calls and served as assistant to the doctor. Upon graduation from high school in 1917, he returned to the farm and assisted in its operation, since his older brothers were in the armed forces of World War I. He entered the University of Wisconsin in February, 1918, as a pre-medical student, became a member of the Student Army Training Corps in the fall of 1918, and upon his discharge entered the School of Pharmacy, graduating from the three year course in 1921 and from the four year course in

1922. During his college years he earned his way by acting as the janitor of a building which housed a drug store and medical and dental offices and working in the store. His summer vacations were spent working as a station manager for the H. J. Heinz Company, except for one summer when he worked in the harvest fields of South Dakota. He had planned to accept full-time employment with the Heinz Company when he received notice that he had been appointed Hollister Fellow at the University of Wisconsin. After receiving his M. S. degree in 1923, he was appointed assistant instructor to the most inspirational teacher that American pharmacy has produced, Dr. Edward Kremers, and continued in this position and carried on graduate work until June, 1926, when he earned the Ph. D. degree. The next year he served as instructor in pharmacy and in 1927 was called to the University of Maryland School of Pharmacy where he served for nine years as professor of pharmaceutical chemistry. In 1936 he was called to the University of Minnesota where he served until 1941, when he was called to be the dean and professor of pharmaceutical chemistry of the Purdue University School of Pharmacy. Throughout his teaching career Dean Jenkins has directed his energies in a large measure toward the establishment of sound graduate educational programs in pharmacy. He is the co-author of two textbooks, "Quantitative Pharmaceutical Chemistry" and "The Chemistry of Organic Medicinal Products." He is the author of more than fifty papers that have appeared in the leading pharmaceutical and chemical journals. The Ebert Medal for research was awarded to him in 1936.

It was during his last year of graduate work and assistant instructorship that he had as his assistant one of his former students, Serena Elizabeth Forberg, a graduate in pharmacy from the University of Wisconsin. She performed her duties so well that the relationship was made permanent through marriage on June 29, 1926. They now have four children: Serena Elizabeth, 16 years old, is a senior in high school; Thomas Nelson, 11 years old, will enter junior high school this year; Glenn Llewellyn, Jr., age 9, is in grade school; and Carol Ruth, age 3. Twin boys born in 1931 passed away soon after birth from pneumonia.

Dean Jenkins has always been active in organizations. He

is a member of Theta Chi, Phi Delta Chi, Kappa Psi, Sigma Xi, Gamma Alpha, Phi Lambda Upsilon, and Rho Chi. He served as the national president of Rho Chi from 1930 to 1934 and was instrumental in its reorganization. In the American Pharmaceutical Association he has worked on many committees, served as chairman of the Section on Education and Legislation and of the Scientific Section, served on the Council for six years and as chairman of the Council for two years, and as chairman of the House of Delegates. A member of the American Chemical Society, he has taken an active part in the work of the Purdue Section. In the American Association for the Advancement of Science he has been chairman of the Subsection on Pharmacy and a member of the Council since 1938. He is a member of the Revision Committee of the United States Pharmacopoeia and chairman of the Subcommittee on Reagents and a member of the National Formulary Revision Committee and chairman of the Subcommittee on Chemicals. Since 1941 he has been chairman of the Indiana Inter-professional Health Council. In the Lafayette community he takes an active interest in and is a director and the vice-president of the Rotary Club, is a director of the West Lafayette Youth Recreation Center, a member of the History of Science Club, and of the faculty club. He claims as his chief hobby the training of creative scientific thinkers and workers in pharmacy. He never misses an opportunity to engage in his childhood love of fishing and hunting. Golf, preferably with a group of his graduate students, is an enjoyed seasonal recreation. As a member of the pharmacy team in the faculty bowling league, he does not boast of his average. The greatest of his pleasures is found with his family amid the tumultuous activity and peace of his home.

Such is the story of the ancestry and the record of accomplishments of the new president of the American Association of Colleges of Pharmacy. Throughout his career Dean Jenkins has demonstrated a superior ability and a sincerity and honesty of purpose and a tolerance toward others that has won for him the confidence and the affection of his colleagues and qualifies him preeminently to direct the affairs of the Association through these critical days of the pre-post war period.

Rufus A. Lyman

The President's Address

FOREST J. GOODRICH

University of Washington

For the third successive year we have come together for our annual meeting with the ugly visage of war still upon us. Thirty-three months have passed since we girded ourselves for the all-out struggle, and many milestones have been left behind. The rapid succession of events cannot help but leave us a little perplexed, and make us wonder what the road ahead will be like. Many obstacles have obstructed our paths during these past three years, and we must consider whether or not we have been charting our course and synchronizing our efforts to meet these conditions. Never before has the need for team work and self-sacrifice been greater for the accomplishment of educational aims. As long as the men and women representing the sixty-one colleges carry forth the principles and ideals upon which the Association was founded, future progress will be assured.

Upon assuming the office of President last September, one of my first responsibilities and duties was the appointment of committees for the ensuing year. I endeavored, so far as possible, to select as the chairmen of the various committees men who, by their work in the past, had evidenced a strong interest in the particular nature of the duties which would be theirs. The members of these committees were also selected because of their special interests in certain problems of the Association. In appointing committees, I tried to select representatives from as many member colleges as seemed practical. Early in the year, I reported to you very briefly by bulletin some of the major issues being considered by the committees, and during these meetings their activities will be reviewed by the respective chairmen.

The Council

During the past year I have had the inspiring experience of reviewing the addresses of Past-Presidents of our Association. Each report serves as a chapter in the life history of our

profession and constitutes an historical record of our problems, endeavors, and accomplishments.

Until twelve years ago, two major obstacles were hindering our educational program, namely, the lack of a standard curriculum and the absence of any procedure for setting up minimum requirements. It is significant to note that these two problems have been brought before each annual Association gathering. A fairly uniform curriculum was inaugurated as a guide for the member colleges, and an independent accrediting agency was established, the American Council on Pharmaceutical Education.

The Council, since its inception, has been a pillar of strength to pharmaceutical education. It has achieved much in its comparatively short life. Perhaps the greatest single accomplishment has been the preparation of uniform standards for schools and colleges eligible to hold membership in our Association. Inspections of all member schools have been made, the standards revised, and the status of pharmaceutical education in this country appraised. The Council is an accrediting agency whose over-all functions are to represent the three national pharmacy associations and to lend strength and support to our member colleges. It has now become a recognized agency by all American accrediting organizations and is fostered by the American Council on Education.

Our Council is laboring under the greatest difficulty. The war emergency has thrown many obstacles in its path. The program at first projected has had to be altered so that the Council could devote its efforts to many critical and unusual problems that have arisen. We may not and do not always agree with the action taken by its members, but we must have faith and trust in those who have been chosen to serve. We shall be rendering a valuable service to pharmacy by standing unitedly behind our Council and giving the support that it deserves.

Retail Pharmacy

Twelve years ago this fall, we entered a new era in pharmaceutical education in which all member colleges were required to offer a minimum of four years of training for all students. The syllabus adopted at that time has been a guide

during these years in strengthening and building the curricula. Professional courses have been increased with some liberalizations in pre-pharmacy subjects such as English, and mathematics and other sciences. Our accredited colleges have met higher standards with respect to faculty personnel, equipment, and teaching. Potential opportunities for an enlarged research program have been presented, and more colleges are now prepared to offer graduate work. The seeds planted in 1932 have, without question, borne fruit.

We know, however, that pharmacy is suffering from ailments which the four year course has not cured. These maladies have been long standing and are deep rooted, and unfortunately we seem to have made slow progress in correcting them. That pharmacy has not been accorded recognition along with the other health professions has been driven home forcibly during this war period. Pharmacy can only be recognized as a public health profession and accepted as such when it is practiced with the dignity of its calling. We must realize that there are pharmacists, and some are graduates from our schools, who are not contributing what they should to the health needs of our citizens.

The opportunity for pharmacy to gain its rightful prestige and to meet the demands which are expected of it is in the hands of the retail pharmacists. The profession is judged in a large measure by the type of service rendered in retail drug stores. It is true that many drug stores are maintaining their practices in keeping with the high ideals of pharmacy, but there is a great number who offer little evidence that their principal function is to contribute to the health needs of the community. In too many of the drug stores of America, the display windows bespeak the service that can be expected from within—windows filled with cigarette placards and dummies, wine tonics, and at certain seasons of the year, fishing tackle, baseball equipment, or swimming paraphernalia. And what is most regrettable is that often this is the only sign to indicate that the store is a drug store. Professional service too often seems to be relegated to the inconsequential. The atmosphere is such that the prospective customer is invited to shop in the store but to go elsewhere if health measures are sought.

Until those retail druggists who are lacking in professional pride about-face and cease to make food, liquor, tobacco, and miscellaneous items rather than health supplies their chief purpose for existence, much of our efforts in behalf of pharmaceutical education will have been wasted. The great majority of the pharmacists have had their training in our schools. Perhaps in some way we have been at fault in not giving them the proper urge toward the ideals of pharmacy. I believe that our schools and state boards of pharmacy at their various district meetings should give serious consideration to a program for improving the practice of retail pharmacy in the different areas. It is imperative that we enlist the retail druggists themselves in such a move if permanent good is to be achieved. I, therefore, recommend that our schools and state boards of the several districts set up a program whereby the cooperation of the different state associations may be secured in the promotion of a better practice of pharmacy.

The National Committee on Public Information

Considerable attention during the past few months has been given to a program set forth by the National Pharmacy Committee on Public Information. The Committee has indicated its earnest desire to advance the standing of the profession in the eyes of the public. The individual's impression of the practice of pharmacy must emanate, in general, from the retail drug stores; hence, a public relations program which starts in these stores can be of inestimable value. Such a movement deserves the cooperation of all the branches of pharmacy—industry, individual pharmacists, and boards and colleges alike.

Too often the achievements of pharmacy are devoid of recognition by the public. The press seldom portrays the contributions of the pharmacist's role in the maintenance of public health and the high professional character which is in keeping with the best practices of the profession. We know from experience that high school advisers are so often unable or unwilling to inform students about the opportunities offered by pharmacy training. If we believe that our profession, like medicine and dentistry, can profit by a program to

promote a better understanding of its values and objectives, the men behind the move are entitled to our sympathetic and continued support.

A concerted effort is being made to relieve the war-time shortage of pharmacists. It is not, however, likely that the situation will be alleviated for some time to come. Under normal conditions, the number of men and women graduated from our schools annually would have been more than adequate to meet professional requirements. It will be a serious mistake if we do not in the future see to it that the quality and quantity of graduates are in keeping with the demands for their professional services. This is a responsibility that must be delegated to our colleges and boards of pharmacy.

A Post-War Consideration

It would appear that the time is not far off when we shall need to put our post-war planning into effect. Our Association is cognizant of the serious consideration that is and must be given to the major problems which will face our colleges and students upon the termination of the war. The Post-War Planning Committee under Dean Wilson, a committee to consider the service courses offered in the Armed Forces with Dean E. R. Serles as chairman, and the Committee on Alumni Activities directed by Dr. T. D. Rowe have been making comprehensive studies of these perplexing questions during the past year. An article, "Major Issues Confronting Post-War Pharmaceutical Education" by Dean B. V. Christensen, appeared in a recent number of the *American Journal of Pharmaceutical Education* and portrayed clearly some of the important obligations.

The most urgent need of the future, as I see it, will be the rebuilding of our faculties. A large proportion of our staffs are on leave and no doubt many will return to their educational work. However, there are also many who will go into the field of industry or will follow other scientific and professional callings. It is going to be a difficult task to recruit men and women who are the products of years of training and experience in pharmaceutical education. We must be prepared for the many adjustments which will be inevitable in a peace-time program for undergraduates and graduates. The load will be heavy. The strength of any college and the contributions

which can be expected of it are and will be measured by the quality of its staff. We must reinforce the main props of our colleges with strong and virile faculties.

Acceleration of Curricula

We all know that since the summer of 1941 many of our colleges of pharmacy, like most other professional schools, have been offering accelerated courses to make graduation possible after a minimum of thirty-two months instead of the usual four years. The By-Laws of our Association were changed to permit such a program of training because it was felt that acceleration would make a real contribution to the nation's war effort. Now, however, it appears that the time has come to "de-accelerate," that is, to restore the full four-year course as the minimum standard for graduation in pharmacy. Some of our colleges, in fact, have already taken the lead in this restoration.

The plain fact is that acceleration has not produced the results expected. It has contributed very little to the war effort. Selective Service made no provision for the deferment of men students who wished to enter pharmacy schools, and students who had already begun their professional training were deferred only if they could graduate in twenty-four months. Since last July, there has been no provision whatever for the deferment of any students in our accelerated courses. The idea seemed to prevail that a large number of registered pharmacists could be drawn from civilian life without seriously undermining essential pharmacy service for the general public during the war. As a result our accelerated courses have not functioned to aid the war effort materially. Most of us will undoubtedly now agree that the accelerated courses should never have been established.

There is another fundamental reason for discontinuing acceleration now. It actually threatens to undermine the soundness of professional training in pharmacy. Experience has shown that the cramming which students must do in the shortened course tends to give them "mental indigestion." There simply is not time for that assimilation of knowledge and skill which is necessary to the highest professional achievement. Moreover, the attempt to crowd four years' work into three years or less is reducing the efficiency of instruction. Many

of the men of our faculties are tired mentally and physically. Their heavy teaching loads and the unbroken routine are not merely dulling the fine edge of teaching efficiency, but are reducing the quality and extent of research. In the long view, neither the public nor the profession can profit from such conditions.

The danger, however, is even more deep-seated and serious than the reduction of efficiency. In an article in the April issue of the *American Journal of Pharmaceutical Education*, Dean Rogers has suggested that the primary reason pharmacy was not included with medicine and dentistry in the Federal Government's subsidized accelerated professional training programs was the feeling among at least some government officials that the standards of pharmaceutical education had not "kept pace with achievements in other professions." He went on to suggest that the large amount of time many pharmacists spend merchandizing non-professional goods has undermined the standing of our profession before the public. In view of these facts, it seems clear that in the post-war future, one of our first and greatest responsibilities will be the raising of standards in pharmaceutical education. Perhaps we shall need to require a year or more of pre-professional study as is done in medicine and dentistry. Perhaps we shall need to reorganize some of our professional courses. Whatever the changes we adopt, however, the fact is perfectly clear that the existence of an accelerated course of study is a heavy "ball-and-chain" limiting, if not preventing, any steps of progress we might take. Fundamental improvements can hardly be made while we are trying to cram students through the shortened course. The sooner we cast it off, the better we shall serve our students and the public.

To begin with, acceleration was an expedient. It has produced little, if any, good. If continued, it threatens to hamstring future progress. The time has come to restore the four year course of study. I recommend, therefore, that on and after October 1, 1945, the member schools of our Association shall discontinue their accelerated programs and the normal four year curriculum be reaffirmed.

The American Foundation for Pharmaceutical Education

Several years ago, a group of men representing the entire

drug industry visualized a plan for giving aid in a substantial manner for the promotion of pharmaceutical education. They believed that pharmaceutical education in itself is a matter of vital concern to all engaged in the production and distribution of health needs. The outgrowth of the coordinated ideas of these men was the establishment of the American Foundation for Pharmaceutical Education. The men whose names are associated with this functioning organization are not only representatives of the retail and wholesale channels of industry, but are men from our own Association as well.

The inception of the Foundation was no doubt predicated upon the fact that the success of the pharmaceutical industry is dependent upon the profession as a whole and more particularly on the young men and women trained in our educational institutions. Accordingly, our colleagues in industry have shown a sincere desire to render assistance to the educational program through a monetary plan.

The prospectus of the Foundation clearly sets forth the objectives of the organization and the direction in which the greatest effort will be expended. The "will" and "will nots" are most laudable and deserve our sympathetic support and consideration. The Foundation's program is a broad one and during this emergency their efforts are being directed to the support of our faculties and undergraduate students. The funds furnished for scholarships are for the express purpose of bringing superior students into pharmacy. Each school to which funds are made available are solely responsible for the selection of the recipients of the awards or scholarships.

The Foundation is very young. It would seem providential that it should come into existence and be able to render its service to pharmaceutical education during this critical period. When peace returns, the re-adjustment period will require the utmost consideration by men of vision and strength in the profession, and education and industry will need more than ever the help of each other to meet the challenge.

The officers and directors of the Foundation have indicated their earnest desire to be guided in their educational and professional activities by our Association. Inasmuch as collaboration on matters of mutual concern to the American Founda-

tion for Pharmaceutical Education and the American Association of Colleges of Pharmacy will be for the best interests of pharmacy, I recommend that the Executive Committee of our Association be delegated to advise with the Foundation if and when requested by the Foundation.

Post-Graduate Study and Research

Recently there appeared in the American Journal of Pharmaceutical Education, an article by Alpheus W. Smith, Dean of the Graduate School, Ohio State University, which epitomizes the modern concept of functional graduate education. While it is true that some of our colleges have had graduate programs for years, it is also true that the general comprehension of their value is late in coming. Dean Smith's inspiring paper should do much to shake away the last vestiges of doubt from the minds of educators backward or hesitant in the formulation of graduate divisions. Also, as Dean Newton pointed out in his presidential address of a year ago, our colleges must awaken to their opportunity for service to the profession in the field of graduate research. Having in mind the ideals presented by these two educators, I would like to comment on graduate research.

I do not need to remind you that we are no longer merely training students in the art of compounding. We are training them to be scientists and reposing in them the responsibility for serving the health of the nation. Recent scientific advances have opened up great areas for exploration. New substances await pharmaceutical development and application. The basic sciences whose knowledge and techniques we use, have developed so rapidly and in so many different ways that specialization is necessary. At the same time the boundaries between fields of science are breaking down; so that the solution of many research problems requires wide ranges of specialized technical knowledge. Because of these conditions the day of the individual research worker has passed; team work is now imperative. We must not only move rapidly into the newly opened areas; we must move into them systematically and with the utmost coordination of effort. If we fail to do so, we shall not merely suffer a decline in professional efficiency; we shall encourage a kind of intellectual paralysis which might even lead to the withering of our professional body.

Knowledge, like muscular tissue, does not remain static; it grows or shrivels, advances or declines. A broad and systematic research program is our only sure means of avoiding decay and promoting growth in the knowledge and skills which are the body and substance of our profession.

Again, I scarcely need to remind you that a broad and co-operative program of research depends primarily on men. It is true that we face problems of finance and equipment, but the fundamental problem of our attempts to push against the frontiers of knowledge is the adequate training of investigators. Study of basic pharmacy and technical skills alone will not suffice. Our research men must indeed be competent in the knowledge and skills of pharmaceutical service; they must be schooled in both theoretical principles and practical applications. But at the same time they must be men who can bridge the gap between pure science and technology without becoming on the one hand too theoretical or on the other hand too narrowly technical. They must above all be scholars, men with imagination and initiative and a broad vision of the needs of our profession and of the public we serve. They must be creative thinkers and leaders.

Where, then, shall we look for such men? Who shall train them, and who shall assume leadership in planning their research work?

Should we look to our undergraduate colleges of pharmacy to provide leadership and training in research? It is true that the work in basic pharmacy provided by these schools lays a necessary foundation for research work. It is also true that they have made substantial contributions to progress in research. Nevertheless, we cannot fairly expect them to do two jobs at once. The essential function of the undergraduate course is to give students a mastery of the accumulated knowledge and practices of our profession. Such primary training in itself does not produce fully competent investigators, nor develop in them a broad vision of scholarly aims. The undergraduate course, in our profession as in other related professions, should concentrate on the task of training competent practitioners.

Leadership is essentially the task of the graduate colleges. They have no monopoly on exploration and discovery in the

world of knowledge, but in our present educational hierarchy their distinctive and special responsibility is the planning and promotion of research. Our colleges of pharmacy, therefore—at least more of our colleges of pharmacy—should prepare themselves to develop well-rounded programs of advanced training. They must provide the vision and the program and train the investigators who are to expand the frontiers of knowledge. As Dean Smith has so well said, "A graduate school cannot delegate this responsibility to any other agency without losing its birthright."

In Memoriam

Within the past year, a distinguished friend and colleague has passed from our midst, Dean H. V. Army. We mourn his passing, but his monumental contributions to pharmacy will be a lasting testimonial of his devotion to his profession. His loyalty to his friends and the wisdom of his counsel will be missed in the years to come. Sympathy and condolences have already been extended by officers of the Association. I recommend, nevertheless, that an appropriate resolution be prepared and sent to the family of our departed member.

Conclusion

In conclusion, may I express my sincere appreciation to all of the members who have so generously and sympathetically assisted me during the year. I am especially grateful to the Executive Committee, the secretary, and the committee chairmen for their untiring efforts and their wise counsel pertaining to Association matters. May we soon enter the post-war era of peace and again have with us those men and women who are helping to make future meetings possible.

Dr. Ralph Bienfang, University of Oklahoma, who is writing a history of military pharmacy in the United States, has been informed by the Chief of the Reference Division of the Army Medical Library at Washington that it is impossible for them to check the Confederate States Medical and Surgical Journal for pharmacy regulations and orders since there is no index to that journal. This is a regrettable situation and one worthy of being remedied. If there is someone who has access to this journal who would undertake this task, a real contribution to historical pharmacy in this country would be made.

Comparative Achievements of Accelerated and Non-accelerated Groups of Students in the College of Pharmacy of the University of Minnesota*

CHARLES H. ROGERS and PALMER O. JOHNSON

University of Minnesota

Introduction

Expressions of opinion indicate that the majority of pharmaceutical educators and others are opposed to substituting an accelerated course in pharmacy for the non-accelerated course of four years of nine months each. The principle reasons for these opinions are: (1) the inability of students to properly digest the material given them on this forced educational diet; (2) the mental and physical fatigue it imposes upon the instructional staff; (3) it precludes students from obtaining any part of the year of practical experience required by law, during the summer vacation periods. No doubt other reasons could be advanced to support their contention. Inquiries have shown that in the majority of cases these opinions are based either upon impressions or upon cursory studies of accomplishments by the students and the effectiveness of the instruction. No published data comparing the effectiveness of instruction and student accomplishment between student groups on the accelerated and non-accelerated bases, arrived at by a statistical analysis of available data, was found for students in pharmacy. Even though the sample of students on an accelerated program was comparatively small, it was decided to compare their accomplishment records with those of a group of students who had comparable predicted honor-point ratios and who had pursued like courses of the same credit value under the same instructors, on the non-accelerated basis. These data were compiled and submitted for expert statistical analysis. The details of this study together with the conclusions that may be drawn from the study follow.

* Grateful acknowledgement is given to the University of Minnesota Committee on Educational Research for financial assistance in carrying out this investigation.

Statistical Analysis of the Observations

The preliminary study.—The only satisfactory way of finding out whether the achievements of accelerated and non-accelerated groups of students are alike or different is in the application of statistical methods to the measures of their accomplishments. In an exploratory study of the problem it was found that there appeared to be a differentiation between the two groups. This preliminary study consisted of a comparison of the honor-point ratios based upon the first quarter's work in the senior year of a sample of twenty-three June, 1942, graduates, who had followed the usual program, with the ratios of the same number of March, 1943, graduates, who were on the accelerated basis, that is, had carried on their work on a successive four-quarter basis. The courses for the respective groups were as follows:

June, 1942, Graduates Non-accelerated Basis (After summer vacation)		March, 1943, Graduates Accelerated Basis (After 4 Qrs. work)	
Subject	Credits	Subject	Credits
Pharmacy 57f (Dispensing)	4	Pharmacy 58 su. (Dispensing)	4
Pharm. Chem. 56f (Quant. Pharm. Chem.)	4	Pharm. Chem. 56 su.	4
Pharm. Chem. 58f (Pharm. Bio-Chem.)	3	Pharm. Chem. 58 su.	3
Pharm. Chem. 161f (Org. Med. Prod.)	3	Pharm. Chem. 161 su.	3
Pharmacology 2f	3	Pharmacology 2 su.	4
Total	17	Total	18

It is clear that to obtain an unbiased comparison of the achievements of the two groups, it was necessary to determine the learning potentialities of the students and to make corrections for the inequalities should they exist. The most rigorous basis for determining the learning abilities was considered to be the predicated achievement of students upon entrance to the College of Pharmacy. The predicated honor-point ratios are obtained from a multiple regression equation which makes use of a knowledge of the high-school achievement, the scholastic record in the pre-professional program, and performance on aptitude tests in science and mathematics.

We present in Table I the means and standard deviations

of the honor-point ratios of each of the two groups under comparison.

Table 1—Comparison on Honor-point ratios of the Non-Accelerated and Accelerated Groups (Preliminary Study)

Group	N	Predicted H. P. R.		Earned H. P. R.	
		Mean	Standard deviation	Mean	Standard deviation
Non-accel.	23	1.462	0.420	1.353	0.744
Accel.	23	1.489	0.475	1.319	0.721

The two groups agreed quite closely in predicated honor-point ratios. In earned honor-point ratios the average of the non-accelerated group was 1.353 and of the accelerated group 1.319. The former was also slightly more variable as indicated by its standard deviation of .744 as compared with one of .721 for the latter. The difference between the means was not statistically significant after adjustment for the inequalities of the two groups with respect to predicted honor-point ratios.

While no rigorous conclusion could be drawn from the preliminary study, the findings suggested that it might be worthwhile to pursue the investigation further on a broader observational basis. The results of the more comprehensive investigation follow.

The principal study.—The primary material for the main investigation consisted of three samples of students on the non-accelerated basis and of one sample of student on the accelerated basis. Sample 1 of the former consisted of 23 students who were June, 1942, graduates; sample 2, of 32 June, 1940, graduates; and sample 3, of June, 1941, graduates. The sample of students on the non-accelerated basis was comprised of 41 March, 1943, graduates. The courses upon which the honor-point ratios were calculated were those of the third quarter, senior year:

Subject	Credit
Pharmacy Dispensing)	4
Pharm. Chem. (Org. Med. Prod.)	3
Professional electives:	3
Industrial Mfgr. Pharm.	
Hospital Pharm.	
Food and Drug Anal.	
Biological assay	
Total	10

The non-accelerated group took these courses in the usual manner, that is, in the third quarter of the senior year; the accelerated group took these courses after six quarters of continuous work.

It was first necessary to determine whether or not the three samples of non-accelerated students were homogenous with respect to achievement. The appropriate statistical tests for this determination are the analysis of variance and the analysis of covariance, the latter for partialling-out here the factor of predicated honor-point ratios. The estimates for the three groups were in satisfactory agreement since no significant differentiation was found among them. This justified the pooling together of the results for the three groups of different years to give a consolidated value for the aggregate of 81 non-accelerated students.

In Table 2 the constants of the sample of 81 non-accelerated students are compared with those of the sample of 41 accelerated students.

Table 2—Comparison on Honor-point ratios of the Non-Accelerated and Accelerated Groups (Principal Study)

Group	N	Predicted H. P. R.		Earned H. P. R.	
		Mean	Standard deviation	Mean	Standard deviation
Non-acc.	81	1.184	0.526	1.684	.524
Acc.	41	1.222	0.642	1.190	.573

On the basis of the average predicted honor-point ratio, the two groups appeared nearly equal. The accelerated group appeared to be more variable with a standard deviation of .642 as compared with one of .526 for the non-accelerated group. The mean of the non-accelerated group exceeded that of the accelerated group by nearly one-half of an honor-point ratio. It is also to be noted that the non-accelerated group appeared to have exceeded prediction, a mean earned honor-point ratio of 1.684 with a mean predicted honor-point ratio of 1.184, while the accelerated group fell a little short of prediction.

The presumed difference, however, must be tested as to its reality. For this purpose, the appropriate test of significance is the analysis of variance test and the analysis of covariance to correct for the inequalities in the two groups with respect

to predicted honor-point ratios. The results of the analysis of variance and covariance are given in Table 3.

Table 3—Analysis of Variance and Covariance for reduced Σy^2

Source of Variation	d.f.*	Reduced		F
		Sum of Squares	Mean Square	
Within groups	119	33.72	2.83	
Between groups	1	6.82	6.82	2.41
Total	120	40.54		

* Degree freedom.

The conclusion which can be drawn from the test of significance is that the null hypothesis, *i. e.*, that there is no significant difference between the means of the two groups of the earned honor-point ratios after partialling-out the factor of predicted honor-point ratio, is rejected at the 10 per cent level. This is usually a higher probability value than the statistician accepts for rejection of the null hypothesis, since the lower level of significance is usually specified as a probability value of 5 per cent. The levels fixed, however, are entirely arbitrary. In the issue under consideration here it is doubtful that administrators would make a change from a non-accelerated to an accelerated program, even if the superior achievement of the non-accelerated group has not been more convincingly demonstrated.

Summary and Conclusions

The introduction of war-time training programs in colleges and universities has given new importance to the problems of the length and continuity of the training period. Certainly to decide whether the emergency programs should have something permanent to contribute or be purely temporary, is one of the fundamental questions relating to the evaluation of their accomplishments. The study reported here dealt with a particular aspect of the problem, *viz*, a comparison of the achievement of a group of students who had followed an accelerated program with the achievement of students who had pursued the conventional non-accelerated program.

The chief conclusion drawn from the findings is that the achievement of students under the non-accelerated program was superior to that of those who followed the accelerated program. While the difference cannot be said to be highly statistically significant it would likely be held to be highly ed-

educationally significant by the majority of administrators in pharmaceutical education, since they would not likely be willing to supplant their usual programs with innovations until the superiority of the latter had been convincingly demonstrated.

AMERICAN COUNCIL STUDYING CONSCRIPTION

George F. Zook, president of the American Council on Education, has announced that George Fort Milton, editor, historian and economist, is now engaged in a comprehensive study of the historical background of compulsory military service. The study, which is being financed by the Committee on Youth Problems of the Council was requested by representatives of all the constituent members of the Council at a conference in Washington on May 4. Mr. Milton is analyzing the conscription experiences of France, Germany, Russia, Switzerland, Sweden, Japan and the United States. Particular attention is being given to the social impacts on government and education at all levels, and especially training for the professions.

Dr. Zook in stressing the importance of the study said, "Inasmuch as several bills are now before the Congress proposing legislation to make mandatory one uninterrupted year of military training for young men of 18, the American people will soon be faced with the question of deciding whether this country needs continued universal military conscription. We must, therefore, have the light of experience upon which to base our decision. This matter, obviously, is one of particular concern to educators. We believe that the history of conscription throughout the world provides one sound basis for evaluating the present proposals."

A new unit-type hospital car has been designed and is now being built for use in the United States. It is ten feet longer, is air-conditioned, accommodates 38 patients and attendant personnel. Each car has two rows of triple-tiered beds, two compartments with three beds each, a stainless steel kitchen equipped with refrigeration, ice cream cabinet and coal range; a receiving room with four foot side doors for loading and unloading litter patients; two roomettes, each with toilet and shower, for the medical staff or seriously ill patients; and a baggage compartment. The car also carries a modern pharmacy unit and sterilizing equipment and in case of emergency either the receiving room or one of the roomettes can be converted quickly into an operating room. The Glenon-type, steel-frame beds are adjustable and unoccupied center bunks can be dropped to provide seating accommodations for ambulatory patients.

Summary of Proceedings of the 1944 Meeting of The American Association of Colleges of Pharmacy

The forty-fifth annual meeting of the American Association of Colleges of Pharmacy was held at the Hotel Cleveland, Cleveland, Ohio, September 7 and 8, 1944. One hundred forty-two representatives from fifty-five member-colleges were in attendance. Representatives from several non-member colleges attended the general sessions.

President Goodrich called the meeting to order and Dean Curry offered prayer. Upon completion of the roll call of colleges by Secretary Eidsmoe, President Goodrich made the following appointments: Committee on Resolutions,—R. A. Kuever, Chairman, P. A. Foote, E. O. Leonard; Committee on Nominations,—T. D. Rowe, Chairman, H. George DeKay, L. D. Hiner; Auditing Committee,—David W. O'Day, Chairman, and Earl P. Guth.

Address of the President

President Goodrich in his comprehensive and thought-provoking address referred briefly to the events of the thirty-three months since the start of the war, and pointed out that never before has the need of teamwork and self-sacrifice been greater for the accomplishment of educational aims.

Commenting on the American Council on Pharmaceutical Education, the President indicated that perhaps its greatest single accomplishment has been the preparation of uniform standards for schools and colleges eligible to hold membership in our Association. He stated that the Council has now become a recognized agency by all American accrediting organizations and is fostered by the American Council on Education. In connection with retail pharmacy he pointed out that the profession is judged in large measure by the type of service rendered in retail drug stores and urged that our schools and state boards of pharmacy give serious consideration to a program for improving the practice of retail pharmacy in the different areas of the country. He further urged support for the program of publicity as set forth by the National Phar-

macy Committee on Public Information. Among post-war considerations the most urgent need of the future will be the rebuilding of our faculties since the strength of any college and the contributions which can be expected of it are and will be measured by the quality of its staff. He showed that acceleration had not produced the results which had been hoped for, that instead it actually threatens to undermine the soundness of professional training in pharmacy and called for its abandonment at an early date. Speaking of the American Foundation for Pharmaceutical Education he said, "The Foundation is very young. It would seem providential that it should come into existence and be able to render its service

to pharmaceutical education during this critical period." Commenting on post-graduate study and research he pointed out that the undergraduate course should concentrate on the task of training competent practitioners and that to the graduate college belongs the responsibility for the planning and promotion of research. He advocated that more of our colleges of pharmacy prepare themselves to develop well rounded programs of advanced training. "They must provide the vision and the program and train the investigators who are to expand the frontiers of knowledge." He paid tribute to Dr. H. V. Arny, former dean of Columbia University, College of Pharmacy. The address was received and the recommendations referred to the Committee on Resolutions.

Report of the Secretary-Treasurer

Secretary-Treasurer Eidsmoe reported all member-colleges had paid dues, with the exception of the University of the Philippines, College of Pharmacy, which, according to action taken at the 1942 annual meeting, is to be carried in good standing without payment of dues for the duration of the War.

The balance in regular funds consists of \$3105.22 in the checking account and a war savings bond of \$1000.00, making a total of \$4105.22 in current funds. The Fund for the Study of Pharmacy has \$571.26 in a savings account and \$3500.00 in government bonds, making a total of \$4071.26 in this fund. The balance in the Vick Chemical Company Research Fund is \$379.21.

The report also submitted figures showing the cost of publication of the American Journal of Pharmaceutical Education.

The complete report appears in this issue of the Journal. It was accepted and the Auditing Committee reported the accounts to be correct.

Report of the Executive Committee

Chairman Christensen reported 1,669 entering students for the year 1943-44, a decrease of 18.4 percent from the 1942-43 enrollment. Of the new entering students, 344 had had previous college training. Of 461 students for whom drug store experience was reported, 131 had less than one year and 330 had more than one year. The total number of students enrolled in the fall of 1943 was 3546, of which 2404 were men and 1142 were women. Of the men, 348 were under 18 and 356 were classified 4-F. During the 1943-44 year 1162 were graduated with the degree of Bachelor of Science in Pharmacy, a decrease of 26.6 per cent from the previous year. Advanced degrees were awarded as follows: Master of Science, 26; Doctor of Philosophy, 9. Honorary degrees awarded were: Master of Pharmacy, 1; Doctor of Pharmacy, 2; Doctor of Laws, 2; Doctor of Science, 1.

Replies to a questionnaire sent out in the early part of October, 1943, indicated it was the opinion of the colleges the War Emergency Committee should continue its efforts to secure more favorable terms for deferment of pharmacy students.

At the request of the American Foundation for Pharmaceutical Education a sub-committee of the Executive Committee was appointed to formulate a statement of policy for awarding Foundation scholarships and grants-in-aid. The statement of policy as prepared was approved by a majority of the colleges with the understanding modifications would be made as experience should indicate to be desirable.

On invitation from the officers of the American Foundation for Pharmaceutical Education a joint meeting of the Executive Committees of the Foundation and of the Association was held at Foundation Headquarters in New York City,

April 3, 1944. A full day was devoted to a discussion of problems confronting pharmacy and pharmaceutical education.

Advantage was taken of the fact that all members of the Executive Committee would be in New York City for the joint meeting with the Foundation to schedule a special meeting of the Executive Committee for April 2, 1944, at the Hotel Pennsylvania. At this interim meeting consideration was given to a number of important matters requiring immediate attention.

Activities of the chairman of the Executive Committee during the year included attendance at a number of meetings of committees and related organizations and the preparation and submission of informative statements and reports for the use of various committees, governmental agencies, and related organizations. The report was received.

*Report of the Committee on the Relation of Boards
and Colleges*

Dean Johnson, general chairman, reported meetings were held in all but one of the eight districts. A summary of each of the district meetings held is included in the report. Problems which were considered at the district meetings included: (1) The efficiency of secondary school training in arithmetic; (2) Evaluation of credits in military service programs; (3) Protection of our educational standards; (4) Inauguration of legislation establishing minimum standards of technical equipment; (5) Coordination of academic study and practical experience; (6) Establishment of a year of pre-pharmacy training as a requirement for the study of pharmacy; (7) The desirability that faculty members should have had practical experience in pharmacy. The recommendations directed to the Association were referred to the Committee on Resolutions. The report was received.*

Report of the Committee on Libraries

The report which was submitted by Chairman Lee, referred to the list of "Pharmaceutical Journals and Their Abbreviations" published in the *American Journal of Pharmaceutical Education* for April, 1943, in an effort to urge the use

* The meeting of District No. 8 was held too late to be included in the original report. A supplementary report covering its activities has been added to the regular committee report.

of suggested abbreviations for titles. The report also included a list of text books in history, ethics, and literature of pharmacy, a list of text books in materia medica, including pharmacology, pharmacognosy, and toxicology, and Supplementary List No. 3 of the journals. The report was received.

Report of the Committee on Activities for Alumni

Chairman Rowe reported this committee, which during recent years has concerned itself primarily with the refresher course situation in the member-colleges, this year enlarged its scope by the addition of two problems, namely: (1) What plans should the colleges make for students returning after the war who withdrew during a school session, and (2) What plans should the colleges make for giving refresher courses to graduate registered pharmacists who have been in the armed forces. Already some schools have made elaborate plans for these two post-war problems, but differences of opinion concerning the problem are widespread. The committee believed the refresher courses offered to men discharged from the armed services should be given separately from those offered to civilian pharmacists who have had continuous contact with pharmacy. The report was received and the recommendations contained therein were referred to the Committee on Resolutions.

Report of the Committee on Problems and Plans

Chairman Lyman acknowledged that one of the major tasks assigned to the committee was the study of the problem of the deterioration of drugs and drug preparations, but stated that the war had necessitated suspension of this phase of the committee's work. Instead the activities of the committee have been devoted largely to a consideration of the Syllabus with special reference to the titles Advanced Pharmacy I, Pharmacy of Inorganic Substances and Advanced Pharmacy II, Pharmacy of Organic Substances. The conclusions reached by the chairman of the committee in his seventy-three page report are: (1) In the discussion of the Pharmacy of Inorganic or Organic Substances educators do not have the same conception of what pharmacy is or what the objectives of pharmacy are. (2) The majority opinion is that this entity is not adequately treated in our present courses in pharmaceutical chemistry. (3) The general opinion is that what is

now called the Pharmacy of Inorganic and Organic substances can be more appropriately named. (4) The general belief is that the material included in the Syllabus under the titles of Advanced Pharmacy I and II should not be included in dispensing since it is basic material which the student should master before he takes up dispensing. (5) It is commonly believed that our courses in dispensing are already too limited for time. (6) Some feel this basic material could be given in the course in pharmaceutical chemistry or in dispensing if the proper adjustments are made and if properly qualified instructors could be obtained for such courses.

The chairman expressed his belief that it was not within the province of the Committee on Problems and Plans to work out the details of a pre-pharmacy curriculum since that clearly is the function of the Syllabus Committee. He believes, however, that the findings of the Problems and Plans Committee representing a cross section of the best thought in the educational field should be made available to the Syllabus Committee for such aid as it may be to that group in its important task in curriculum building. The report was received and the recommendation which it contained was referred to the Committee on Resolutions.

*Report of the Committee on Educational and
Membership Standards*

Chairman Hiner reported the committee had decided to limit its attention to one of the most generally controversial sections of our By-Laws, namely Article I, Section 7c, which reads as follows: "Not less than three years of residence study in a college of pharmacy shall be required for the completion of the requirements for the Bachelor of Science in Pharmacy degree." The committee raised the following four questions in connection with this By-Law: (1) What is the correct meaning or interpretation of the statement "three years of residence study"? (2) Is the requirement justifiable? (3) Is the requirement being lived up to? (4) What steps shall we take to insure uniform observance of this requirement by the member-colleges? In the opinion of the committee the statement means credit for general or foundational subjects should be allowed *for not to exceed one year*; that not less than nine quarters or its equivalent in semesters of time shall be devoted to residence study by all students who

enter pharmacy with advanced standing from non-pharmacy colleges; and finally that each quarter or semester of this time these students shall carry a *full academic schedule of courses as required by their respective institutions*. The committee recommended the Association endorse these interpretations of our By-Laws. The report was received and the recommendations referred to the Committee on Resolutions.

*Report of the Delegates to the American Council
on Education*

The report was presented by Professor B. Olive Cole, who with Dean W. F. Rudd, represented the American Association of Colleges of Pharmacy at the two-day conference. The two issues of national scope selected for discussion were: "Is it wise to commit the United States to a year of compulsory military service" and "How should a federally financed program of education for discharged military personnel operate on the federal, state and local levels?" Resolutions previously approved by mail ballot by the Council that "it is unwise to commit the nation at this time to a year of universal military service" were confirmed by the conference. The conference voted that a study be made to accumulate data and prepare reports on issues on which a positive declaration of policy could be made, such reports to be presented to constituent members for action when necessary. In connection with the federally financed program for discharged military personnel resolutions were adopted which emphasized the conviction that the control of education should be left to states and localities rather than to a federal bureau. The report was received.

Report of the Committee on Pharmaceutical Research

Chairman Lynn in his report explained this committee had been created as the result of a recommendation by former President Newton. That there is need for such a committee is evident from the fact that during the past fifty years most of the really important discoveries in materia medica, medicine, and pharmacy have been made by non-pharmaceutically trained individuals. In the belief there are many within the field of pharmacy who are qualified to do research of a creditable nature, this committee has been set up to "stimulate, inspire, guide and coordinate their efforts so that, at the least, there would be a greater likelihood of doing something that

might redound to our credit." The committee has compiled a list of about 250 members of the faculties of our member-colleges who have shown themselves to be interested in research. It is planned to complete this roster of available workers as well as to add to its information. The committee listed seven factors which it considers necessary for the promotion of efficient research. The report was received.

*Address, E. Walton Bobst, The National Pharmacy
Committee on Public Information*

Chairman Bobst listed four objectives of the committee's initial program: (1) To revitalize interest in the profession of pharmacy on the part of pharmacists themselves. (2) To increase public appreciation for the profession. (3) To attract desirable young people in greater numbers to take up pharmacy as a career. (4) By the foregoing activities to help the national, state and local associations safeguard against unjust and discriminatory legislation. In the campaign to recruit students a poster which was prepared and distributed to 22,000 high schools throughout the country, brought 30,000 requests for the booklet "Your Future in Pharmacy" which outlines the qualifications, requirements and opportunities for a career in pharmacy. In addition to the student poster and the booklet, the committee made use of magazines and newspapers to publicize to young people the opportunities in the profession of pharmacy. Articles on pharmacy in 1500 magazines, including chamber of commerce publications, parent-teachers' magazines, educational guidance papers, high school newspapers and hospital and farm publications, carried this publicity to approximately nine million people.

In a continuation of the student recruiting program a new poster has been prepared which is described as more idealistic and dramatic in its appeal to young people than was the first one. A Speakers' Bureau has been organized for the purpose of addressing groups whose members are in a position to acquaint young people with information about opportunities in pharmacy. Steps have been taken to publicize pharmacy to the returned servicemen. The booklet "Your Future in Pharmacy" re-written in part to fit this different situation will be made available through the 52 Veterans' Bureaus located throughout the country to returned veterans. The address was received.

*Report of Representatives to American Foundation
for Pharmaceutical Education*

Dean Little named the officers and directors of the Foundation and listed the membership of the Board of Grants to whom he paid high tribute, stating we may feel assured the grants of the Foundation will be made as wisely as it is possible for human beings to operate.

From surveys conducted by the Foundation it was revealed that 17 colleges of pharmacy would need financial assistance the college year 1943-44. The 17 schools requesting aid indicated a need for \$203,000.00 to compensate for lack of funds and to balance budgets. The Board of Directors made \$100,000.00 available to the Board of Grants for this purpose. The Board of Grants after reviewing the various requests made appropriations totalling about \$60,000.00.

During 1943 the Foundation provided two \$200.00 scholarships for each of the 64 accredited colleges. These 128 scholarships will be again available in the 1944-45 year.

The Foundation to date has collected about a half million dollars. Consideration is now being given to starting a drive for a permanent fund of \$5,000,000.00. The income from this fund, amounting to about \$150,000.00 annually, could be used for the purposes set forth in the By-Laws.

Dean Little stated other grants will be forthcoming not only for undergraduate work but also for graduate work and research fellowships. The report was received.

*Report of Special Representatives to the Druggists
Research Bureau*

Chairman Olson reported that during the past year the Directing Committee held one meeting in Chicago to consider the activities which could be undertaken by the Bureau which would be helpful to pharmacy proprietors in post-war planning. One suggestion was a program on modernizing retail pharmacies; another is to undertake additional scientific research on costs of supplying the various kinds of service and merchandise customarily offered in retail pharmacies. No decision was reached at the July 10 meeting as to whether either or both of these programs should be undertaken. A

second meeting was scheduled for September 12. The report was received.

Report of the Committee on Predictive and Achievement Tests

Chairman Netz reported that because he was required to take on special duties which left no time for other activities the work of the committee laid dormant until last spring. It was obvious to the present committee that the testing program can not be resumed until pharmaceutical education has returned to normal so the committee has decided to devote its time to planning and preparing for a new program to be put into effect as soon as possible after the war ends. In the revision of the program the following items are being considered: (1) Reduction in length of each of the four parts (pharmacy, chemistry, pharmacognosy, biology) of the achievement test to allow each to be written in a maximum of 90 minutes. (2) Adjustment of the scope of the material covered. (3) Elimination of zoology questions from the biology test. (4) The incorporation of the scores on achievement tests with the regular grades used as a basis for graduation. (5) Increasing the number of schools participating in the testing program. (6) Correlation of the scores on predictive tests with those on achievement tests. The report was received and the recommendation referred to the Committee on Resolutions.

Report of the Committee on Professional Relations

Chairman Foote pointed out the history of our profession has demonstrated the importance of proper professional relations with those who are engaged in medicine, dentistry, veterinary medicine, nursing and all the health professions. The report listed a number of suggestions for fields of activity for the committee.

Recognizing that a successful program of professional relations needs the cooperation of all of the health professions the committee asked for authorization to explore the possibility of forming a Council on Professional Relations to consist of officially delegated representatives from national pharmaceutical, medical, dental, and other health organizations, which could assist in executing a coordinated program of profession-

al relations. The report was received and the recommendations referred to the Committee on Resolutions.

Report of the Committee on Distributive Education

Chairman Serles reported the accomplishments of the Committee have been limited during the past twelve months because of the inability of the Subject Matter Committee to secure adequate personnel to continue the development of the teaching outlines. Of the three major divisions of the educational program outlines have been completed for all of Division One and for twelve units of Division Two. The latter have been mimeographed and are to be mailed to the colleges and boards of pharmacy immediately. A portion of Division Three has been prepared but because it has not been edited this material is still unpublished. The report was received and the recommendation referred to the Committee on Resolutions.

Report of the War Emergency Advisory Committee

Chairman DuMez stated that because a review of the activities of the committee up to the latter part of January, 1944, was published in the January Journal, this report covers only the period from February 1, 1944. He reported Selective Service regulations with respect to drafting of pharmacy students at the time the review was prepared permitted deferment only of those able-bodied male students who could graduate on or before July 1, 1944. These regulations are still in effect and as a result student enrollment in the colleges of pharmacy has continued to decrease. The committee has worked with the War Activities Committee of the American Pharmaceutical Association and has explored every possibility of securing deferment for pharmacy students or otherwise alleviating the situation which is now confronting pharmacy. A statement was prepared showing the effects of the war emergency upon the practice of pharmacy in general and including the effect upon the colleges of the non-deferment of pharmacy students. The report was received.

Report of the Committee on Scholarships

Chairman Wilson reported that no matters have been referred to the committee during the year and no official meeting of the committee was held. He commended the work

and policies of the American Foundation for Pharmaceutical Education. The report was received and the recommendation therein contained was referred to the Committee on Resolutions.

Report of the Committee on Post-War Planning

Chairman Wilson stated the report was based on replies to a questionnaire which he had sent out to deans and faculty members early in the year. The replies in the opinion of the committee constitute the best cross section of pharmaceutical thinking yet compiled. The following problems were discussed: (1) Termination of the accelerated program. (2) The admission into our schools of pharmacy of young men and women following demobilization. (3) Refresher courses for our graduates following discharge from the Service. (4) Adoption of a requirement for a pre-pharmacy year. (5) Coordinating and integrating our curricula with those in the schools of medicine, dentistry, public health and nursing in order to render a more scientific health service to the public. (6) How pharmacy may best qualify itself for more effective and more efficient service in the health field. (7) Limitation of enrollment in our colleges of pharmacy. (8) How we may proceed to interest the higher quality of students in the profession of pharmacy. The report was received and the recommendations referred to the Committee on Resolutions.

*Report of Special Joint Committee to Study Nature
and Extent of Training in the Armed Forces*

Dean Serles, co-chairman for the colleges, presented the report to the Association. He pointed out that the courses taken by enlisted personnel will sooner or later be presented to college administrators and boards of pharmacy for evaluation. He outlined the work of the Armed Forces Institute which he explained is divided into two groups of courses. The first group consists of courses offered directly by the Institute and embraces about 225 self-teaching or group study courses. In the second group about 7,000 individual correspondence courses are offered through the Institute by approximately 85 cooperating colleges and universities. Upwards of 250,000 service personnel have already enrolled for correspondence courses and in addition many thousands more are studying in group classes in off-duty time. In these groups of correspond-

ence courses are listed a number of subjects which are included in the Fifth Edition (tentative) of the Pharmaceutical Syllabus and which, in the judgment of the committee, might be considered as meeting a portion of the requirements for graduation from our member-colleges. The report listed the subjects which might meet requirements of a pharmacy curriculum and outlined the method of their administration by the Armed Forces Institute. The report was received and the recommendations were referred to the Committee on Resolutions.

*Report of Committee on Formulation of Policy for
Awarding American Foundation for Pharma-
ceutical Education Scholarships and
Fellowships*

Chairman Jenkins outlined the policies which had been formulated by the committee. He pointed out the Foundation has made financial need the prime requirement for awards, whereas, the committee believes the primary basis should be scholarship. The committee also believes the term "scholarship" should be reserved for awards made on the basis of scholastic ability and an award made on the basis of financial need shall be termed a "grant." The report also contained recommendations to the American Foundation for Pharmaceutical Education for the establishment of a basis for fellowship grants in aid of research. The report was received and the recommendations referred to the Committee on Resolutions.

*Report of the Editor of the American Journal of
Pharmaceutical Education*

Dr. Lyman, the Editor of the Journal, called attention to several of the features which have been carried on during the past year. An effort was made this year to collect and publish in the Journal a list of all scientific and educational papers and texts produced by members of our faculties for 1943. It is hoped to make this an annual feature. Another feature is to publish leading articles which come from outside our own group, but which have a direct bearing upon pharmacy or pharmaceutical education. He urged greater support of the section "Pharmaceutical Education on the March," and pointed out it should be a worthwhile activity to show the advances

that are being made in spite of the trying conditions of war. The report was received.

Report of the Historian

Dr. Urdang reported all but three of the member-colleges in the continental United States have replied to the questionnaire concerning history of the individual colleges. Several deans indicated an intention of publishing histories of their own schools. In some instances such histories are now in preparation and their publication may be expected as soon as the general situation permits. The report was received.

Report of the Committee on Pharmacists in the Government Service

The formal report of this committee was made to the House of Delegates of the American Pharmaceutical Association, but Major Einbeck, the chairman of the committee, briefly presented some phases of that committee's work to the American Association of Colleges of Pharmacy. He outlined the progress which had been made toward its objective of a Pharmacy Corps in the United States Navy. In the Army the situation is still unsatisfactory. Provisions of the Pharmacy Corps Bill are not being complied with and the 72 officers authorized by that Bill have not yet been appointed. In the Public Health Service a bill has been passed which recognizes the pharmacist as a commissioned officer, and in the Veterans' Administration an increased professional rating has been secured.

News of Death of Dr. A. John Schwarz

The Association was shocked and saddened by the receipt of a telegram announcing the accidental death of Dr. A. John Schwarz of the University of Tennessee, School of Pharmacy on September 7, 1944. A telegram expressing the sympathy of the Association was sent to Mrs. Schwarz.

Introduction of Representative from Student Branch of American Pharmaceutical Association

President Goodrich introduced Mr. Don Myer of District No. 4, Student Branch of the American Pharmaceutical Association. Mr. Myer spoke briefly of student interest in educa-

tional policies and actions, and assured the college Association of their wholehearted support.

Film: Pharmacy as a Profession

Mr. Vance R. Littlefield of the Becton, Dickenson Foundation for the Advancement of Scientific Knowledge briefly discussed the educational film which the Becton Dickenson Foundation has produced to interest young people in pharmacy. The film, which is in sound, will be turned over to and will be distributed by the American Foundation for Pharmaceutical Education. It is contemplated the film will be shown in high schools, before Parent-Teachers' Organizations, Women's Clubs, Rotary, Kiwanis and other town and local organizations where it will be a powerful force in helping to recruit students of a high type for pharmacy.

*Report of the Special Representative to National
Drug Trade Conference*

Dean Little reported that the Conference has not met for several years, but it will resume meetings when the war is over.

*Report of the Special Representative to the National
Association of Retail Druggists*

Dean Serles reported he had been graciously received as a delegate and that every possible courtesy had been extended to him. He commended the National Association of Retail Druggists for the seriousness of its interpretation of problems related to the training of pharmacists. Its resolution concerning the maintenance of standards, particularly of registration of pharmacists was of the most vigorous type. The program has been consistently carried out through the executive offices during the year.

Report of the Committee on Resolutions

Dean Kuever, chairman, presented the following recommendations:

From the President's Address

1. That our schools and state boards of the several districts set up a program whereby the cooperation of the different state associations may be secured in the promotion of a better practice of pharmacy.

The Committee on Resolutions approved the recommendation and it was adopted.

2. That on and after October 1, 1945, the member-schools of our Association shall discontinue their accelerated programs and the normal four year curriculum be reaffirmed.

The Committee on Resolutions disapproved this recommendation because a similar recommendation somewhat more acceptable is found in the report of the Committee on Post-War Planning which the Committee on Resolutions will approve.

3. That the Executive Committee of the American Association of Colleges of Pharmacy be delegated to advise with the American Foundation for Pharmaceutical Education if and when requested by the Foundation.

The Committee on Resolutions approved this recommendation and it was adopted.

4. That an appropriate resolution be prepared and sent to the family of the late Dean H. V. Arny.

The Committee on Resolutions approved this recommendation stating it was the belief of the Committee this should be made the duty of the secretary of the Association. The recommendation was adopted.

From the Committee on the Relation of Boards and Colleges

1. That the members of District No. 2, Boards and Colleges, go on record as opposing vigorously any efforts to lower academic standards or efforts to provide pharmacy licensure without full college and experience requirement.
2. That the American Association of Colleges of Pharmacy be requested to work out whatever plans may be deemed wise in the protection of our educational standards and in the interest of the public health.
3. That it is now time that consideration be given for the establishment of a pre-pharmaceutical year as a requirement for the study of pharmacy.
4. That we recommend to the administration of our colleges of pharmacy that it is desirable that their faculty members should have had practical experience in pharmacy, and especially to those faculty members teaching practical pharmacy subjects.

The Committee on Resolutions approved the above recommendations and they were adopted.

From the Committee on Activities for Alumni

1. That the Association approve a policy permitting former students returning from the armed forces to renew their college training where they left off in so far as practical. A policy of this type has operated for years in most schools. This recommendation is presented primarily to emphasize the need of its continuation for service men.

The Committee on Resolutions approved this recommendation and it was adopted.

2. That the Association urge its member-colleges not to request students to repeat courses for which they have received credit.

The Committee on Resolutions disapproved this recommendation on the basis that it is common practice and therefore unnecessary.

3. That the Association urge the member-colleges to give short review courses if needed, concurrently with the regular courses. No passing requirements should be established for this work.

The Committee on Resolutions approved this recommendation and it was adopted.

From the Committee on Problems and Plans

1. That this report representing the thought and activity of the Problems and Plans Committee for the year be submitted to the Syllabus Committee to be used in any way that will be helpful to the work of that committee.

The Committee on Resolutions approved this recommendation and it was adopted.

From the Committee on Educational and Membership Standards

1. That Article I, Section 7b of the By-Laws be amended to read:

"Students transferring from an accredited non-pharmacy college may be admitted to advanced standing without examination and be given credit, *for not to exceed one year*, for the work completed in the general cultural or foundational subjects of the pharmacy curriculum."

2. That Article I, Section 7c of the By-Laws be amended to read:

"In pursuance of Article I, Section 7b, not less than three years of residence study while registered as a full-time student of

pharmacy in an accredited college of pharmacy shall be required for the completion of the requirements for the degree of Bachelor of Science in Pharmacy."

Since the above recommendations require an alteration of the By-Laws the Committee on Resolutions recommended that they be held in abeyance for a year for thoughtful consideration.

From the Committee on Predictive and Achievement Tests

1. That the Committee on Predictive and Achievement Tests be continued.

The Committee on Resolutions approved this recommendation and it was adopted.

From the Committee on Professional Relations

1. That the Committee on Professional Relations be continued during the year 1944-45.
2. That the Committee on Professional Relations be authorized to explore the possibility of forming a Council on Professional Relations to consist of officially delegated representatives from national pharmaceutical, medical, and dental organizations and any other organizations of health professions which could aid and assist in executing a coordinated program of professional relations.
3. That the American Association of Colleges of Pharmacy approve the formation of a National Council on Professional Relations and its representation therein.

The Committee on Resolutions approved these recommendations and they were adopted.

From the Committee on Distributive Education

1. That the American Association of Colleges of Pharmacy continue the Committee on Distributive Education, in order that we may assume our share of the responsibility in establishing policies of adult education, insofar as they apply to the retail pharmacist.

The Committee on Resolutions approved this recommendation and it was adopted.

From the Committee on Scholarships

1. This Committee recommends for the consideration of the American Foundation for Pharmaceutical Education the study of some plan for the award of grants to faculty members who desire to complete requirements for advanced degrees or for other specialized training or research.

The Committee on Resolutions approved this recommendation and it was adopted.

From the Committee on Post-War Planning

1. Termination of Accelerated Program. While the committee unanimously favors deceleration as soon as possible it does not believe that a definite date for returning to the normal program can be recommended at this time. This is due to the present unclarified status of the G. I. Bill; the varying conditions and commitments existing in the colleges of pharmacy; the uncertainty with respect to the termination of the war and many other factors on which no decision has been made at this time.
2. That under no circumstances will our entrance requirements to schools and colleges of pharmacy be lowered.
3. That a committee be appointed to bring in recommendations next year for the date when the new pre-pharmacy curriculum may be put into effect. The Syllabus Committee is asked to develop in the interim a curriculum for the lengthened course.

The Committee on Resolutions approved these recommendations and they were adopted.

4. That a committee from this Association be appointed to explore the possibilities of the development of a coordinated or integrated program of instruction in all the various schools involved in the training of individuals for the practice in any of the health professions.

The Committee on Resolutions approved this recommendation with the stipulation that it be referred to the Syllabus Committee rather than to a new committee, and with this stipulation the recommendation was adopted.

5. That a committee be appointed to explore all the possibilities as to how pharmacy may best qualify itself for more effective and efficient service in the health field.

With the stipulation that this matter be referred to the Committee on Problems and Plans the Committee on Resolutions approved this recommendation and it was adopted.

6. This Committee is unanimously of the opinion that enrollment should be limited. It recommends that a committee be appointed to study the problem and suggest at our next meeting ways and means for a program on limitation.

The Committee on Resolutions approved this recommendation and it was adopted.

From the Special Joint Committee to Study Nature and Extent of Training in the Armed Forces

1. That the Commandant of the Armed Forces Institute be authorized to distribute a listing of the subjects as set forth in this report, as being desirable educational training for a pharmacist, but that in each case the college credit accepted for the successful completion of such course be determined by the proper authority in each member-college.
2. Further, that the Commandant may be authorized to distribute the brochure entitled "Preparing to Become a Pharmacist."
3. Further, that the chairman of the Executive Committee of the American Association of Colleges of Pharmacy assist the Commandant in securing a roster of the persons in each of our member-colleges charged with the responsibility of evaluating credits for advanced standing.

The Committee on Resolutions approved the above recommendations and they were adopted.

From the Committee on Formulation of Policy for Awarding American Foundation for Pharmaceutical Education Scholarships and Fellowships

Whereas, the American Foundation for Pharmaceutical Education has stated in part as its purposes that it will "support graduate work in colleges qualified to carry on such programs in a creditable manner" and "encourage scientific research both as a necessary component of graduate work and as special projects," and

Whereas, a number of our colleges of pharmacy are qualified to carry on graduate teaching and scientific research programs and financial support to such programs would greatly stimulate their progress, therefore be it Resolved,

1. That the American Association of Colleges of Pharmacy recommend to the American Foundation for Pharmaceutical Education,
 - a. That 12 graduate fellowships of \$1500 each be established and awarded annually by the American Foundation for Pharmaceutical Education and assigned to those colleges of pharmacy best qualified to conduct graduate work.
 - b. That these fellowships shall be known as The Pharmacy Foundation Fellowships in Pharmacy.
 - c. That not less than \$1200 of the fellowship be paid to appointees, the remaining \$300 or any part thereof to be used for equipment and supplies in forwarding the research.

- d. That the stipend paid to any fellow may be determined by the institution. For example, one school might establish two \$600 fellowships and another might establish one \$1200 fellowship.
 - e. That each institution to which a graduate fellowship is assigned may determine the qualifications of fellows, select fellows, and prescribe requirements and conditions under which the graduate study and research shall be carried out.
 - f. That reports on the qualifications of fellowship appointees and their progress in graduate work and research shall be filed with the American Foundation for Pharmaceutical Education.
2. That the American Association of Colleges of Pharmacy express its appreciation to the American Foundation for Pharmaceutical Education for the provision of funds for the establishment of undergraduate scholarships in our member-colleges.
 3. That the Association recommend to the Foundation its belief that no better use can be made of the Foundation funds than the extension of its scholarship program and the establishment of a fellowship and a student loan program.

The Committee on Resolutions approved these recommendations and they were adopted.

From the Committee on Pharmaceutical Research

1. That the Association recommend that Colleges of Pharmacy having the necessary facilities, faculty, equipment and space, offer graduate work.

The Committee on Resolutions approved this recommendation and it was adopted.

Resolution Based upon the Report of the Committee on Status of Pharmacists in the Government Service

1. Whereas, the President on July 12, 1943, signed the bill directing the establishment of a Pharmacy Corps in the United States Army, and

Whereas, under the provisions of this law the Surgeon General of the Army can act to improve the pharmaceutical service in the United States Army and in the Army of the United States:
Therefore, be it Resolved that the American Association of Colleges of Pharmacy calls upon the Surgeon General of the Army to take prompt measures to make effective the provisions of Public Law No. 130-78th Congress.

The Committee on Resolutions approved this resolution and it was adopted.

The report of the Committee on Resolutions was then adopted as a whole.

Relative to Other Committees

Because of limited time the reports of the American Council on Pharmaceutical Education and of the National Pharmaceutical Syllabus Committee were not presented to the Association, but will be printed in full in the Journal.

Former Secretary-Treasurer Cooper Elected to Honorary Membership

In recognition of her many years of outstanding service, upon motion of Dean R. A. Lyman, seconded by Dean B. V. Christensen, Zada M. Cooper, former Secretary-Treasurer was unanimously elected to honorary individual membership in the American Association of Colleges of Pharmacy.

Election of Officers

President-elect.....Henry S. Johnson, New Haven, Connecticut
 Vice President.....Gordon L. Curry, Louisville, Kentucky
 Secretary-Treasurer.....Clark T. Eidsmoe, Brookings, South Dakota
 Chairman of Executive Committee.....B. V. Christensen, Columbus, Ohio
 Members of the Executive Committee.....Troy C. Daniels, Berkeley, California; Charles H. Rogers, Minneapolis, Minnesota
 Member of the Syllabus Committee.....Joseph B. Burt, Lincoln, Nebraska

Conference of Teachers of Pharmacy

In the absence of the chairman and vice-chairman, the secretary, Mr. L. A. Wilson, presided.

The following papers were presented: "Compounding Aids in the Post-War Curriculum," Gordon A. Bergy; "Evaluation of the Accelerated Program," C. O. Lee; "Influence of Modern Therapeutic Agents upon Pharmaceutical Practice," John F. McCloskey and Edward J. Ireland. Because of lack of time the following papers were transferred to the Section on Practical Pharmacy of the A. Ph. A.: "Rehabilitation Studies in Dispensing for Returning Registered Pharmacists," T. D. Rowe, and "Dispensing Pharmacy," E. P. Guth. Limited time permitted only briefest discussion of papers. The following officers were elected for the ensuing year: chairman, Elmer M. Plein; vice-chairman, Arthur Purdum; secretary, Louis A. Wilson.

Conference of Teachers of Chemistry

The Conference of Teachers of Chemistry was called to order by Chairman James. He appointed the following to serve as a committee to formulate By-Laws and Procedure for the Conference and render a report at the 1945 meeting of the Conference: Charles O. Wilson, chairman; E. V. Lynn and George L. Webster. The members of this committee were also appointed as the nominating committee.

The program was devoted to a discussion of Quantitative Analysis as outlined in the proposed Pharmaceutical Syllabus. Two papers were presented: (1) "A Critique of the Syllabus Outline of Quantitative Pharmaceutical Chemistry," Ole Gisvold and Charles O. Wilson (presented by Dr. Wilson), (2) "Quantitative Chemistry and Quantitative Pharmaceutical Chemistry," Ray S. Kelley. These papers were discussed at length and the following motions, to be transmitted to the Chairman of the Syllabus Committee, were unanimously adopted: 1. It is the consensus of opinion of this group that the Syllabus should contain a statement that the Outline in Quantitative Analysis may be given in one course or in two courses and that the Outline should be flexible enough for this purpose. 2. It is the consensus of opinion of this group that the Syllabus Outline in Quantitative Analysis be returned to the Syllabus Committee for reconsideration and rewriting.

A paper, "The Proposed Modification of the Pharmaceutical Syllabus Outline for Qualitative Analysis," was presented by Arthur E. James, Chairman of the Syllabus Sub-Committee on Qualitative Analysis.

The following officers were elected for the ensuing year: Chairman, Ole Gisvold; Vice-Chairman, H. G. Hewitt; Secretary, Ray S. Kelley.

*Conference of Teachers of Pharmacognosy and
Pharmacology*

The meeting was called to order by Chairman L. W. Hazleton. The program consisted of the following papers and discussions: (1) "A Proposal for Modification of the Biological Assay Laboratory Requirement of the Pharmaceutical Syllabus" by L. W. Hazleton. This was followed by discussions from H. G. O. Holck and Curtis Waldon. (2) "How Should a

Student's Ability to Do Graduate Work in Pharmacognosy and Pharmacology Be Evaluated?" by Ralph F. Voight. This was followed by discussions from Geo. D. Beal and E. R. Serles. The following officers were elected for the ensuing year: Chairman, L. D. Hiner; Vice-Chairman, Ralph F. Voight; Secretary, L. F. Jones.

Conference of Teachers of Pharmaceutical Economics

The Conference was called to order by Chairman Lawrence Ferring. Due to the decreased time allowed for the business of the Conference, the chairman's address was shortened to a mere recounting of the happenings of the previous year's meeting. One paper, "Post-War Plans for Pharmaceutical Economics Courses in Colleges of Pharmacy" was presented by Joseph H. Goodness and discussed by the Conference. It carried four recommendations, three of which were unanimously adopted and forwarded to the Syllabus Committee for consideration. They were: *Recommendation 1. (Table of Contents, page ii).* Change the heading "Subjects in Pharmaceutical Economics" to read "Subjects in Pharmaceutical Economics and Jurisprudence" and place thereunder the subject "Pharmaceutical Law" which now is misclassified by inclusion under the heading "Pharmaceutical Subjects."

Recommendation 2. (Pharmaceutical Law, page 52). Limit the objectives of this subject to the retail practice of pharmacy.

Recommendation 3. (Management, page 97). (a) Rewrite the outline to include the topics: Tenancy and Leases, Financing Retail Operations, Law of Fixtures, Drug Store Insurance, Own-Label Products, Prescription Pricing Methods (if this topic is not included in a practical dispensing course in the Department of Pharmacy). (b) Delete from the current outline the topics:

- (under VI) Production Techniques (of show cards)
- (viii) Obtaining Best Results from Letters
- (x) Selection and Maintenance of Prescription Department Stock
- (xi) Opportunities for Development of a Laboratory
- (xiv) Library Services

The following officers were reelected to serve for the coming year: Chairman, Lawrence Ferring; Secretary, Joseph H. Goodness.

Clark T. Eidsmoe, Secretary

CONSTRUCTIVE THINKING IN CANADA

It is both interesting and instructive to note what leaders in pharmaceutical education are thinking about in other countries than our own. Just what the trend is in Canada may be gleaned from a letter of Dean Hurst of the Ontario College of Pharmacy from which the following extracts are taken:

"I wonder if I may trespass on your time for a few minutes in order to benefit by your experience and judgment on a subject with which we are wrestling at present. To come to the point, we are about to deal with educational problems in Pharmacy, and the value of apprenticeship in particular.

"As you may know, we in Canada have adhered to the longer apprenticeship system, and have been debating its value. At present we require three years of service prior to the College course, and have prepared a special text to assist apprentices, who must pass examinations corresponding to each year's service before they are qualified to enter College.

"We question the merit of requiring three years of a student's service in a pharmacy. Many people believe that this should be reduced to two years, others advocate one year, and some, none at all. It is at this state of our deliberation that we make an appeal to you for a statement as to what is required in your State. We would appreciate it if you would go beyond this, and give us your candid opinion as to any changes that you think you would make, if you were starting over again. We assure you that any personal opinion you may give will not be published, or used in any way other than as a statistical reference.

"This College is a private institution, owned by the pharmacists of this Province, and affiliated with the University of Toronto. Our controlling voices come to us through the channels of the ballot. We therefore move slowly and have many minds with which to deal, in order to effect basic changes.

"Since we, in Canada, are planning to reconstruct our whole system of pharmaceutical education, we are in a position to benefit by the great forward strides that have been made in your country. We assure you that we will appreciate your assistance, and hope that you will fill in the enclosed form and return it to us, adding any of your private convictions that you feel will help."

Evidently Canada is finding dissatisfaction with a long apprenticeship system as a requirement for the study and practice of pharmacy as we did and is seeking better ways as we did and as we did she will find them. We are sure any constructive suggestions that you may send to Dean Hurst that will be helpful will be appreciated.—Editor.

Reports of Officers, Delegates and Committees at the 1944 Meeting at Cleveland

Report of the Secretary-Treasurer

There is little to say concerning the activities of this office except to report that the work has been quite heavy. Matters of routine nature were handled by the secretary-treasurer, but all cases involving questions of policy were referred to the Chairman of the Executive Committee for decision.

The total number of member-colleges, 61, is unchanged. All member-colleges have paid dues, with the exception of the University of the Philippines College of Pharmacy, which, according to action taken at the 1942 annual meeting, is to be carried in good standing without payment of dues for the duration of the war.

A detailed financial statement is appended as a part of this report. The checking account consists of \$3105.22 cash on hand and a War Savings Bond with a par value of \$1000.00, making a total of \$4105.22 in this account. The Fund for the Study of Pharmacy has \$571.26 in a savings account, and \$3500.00 in government bonds, making a total of \$4071.26 in this fund. During the year the Treasury Department called two of the \$1000.00 U. S. Treasury Bonds for redemption. These bonds were replaced with two \$1000.00 War Savings Bonds Series G. The balance in the Vick Chemical Company Research Fund is \$379.21.

The cost of printing the *American Journal of Pharmaceutical Education* has been \$1529.20. Postage and clerical expenses connected with its publication were \$173.10, bringing the total to \$1702.30. Subscriptions and advertising yielded \$550.10, leaving a net cost to the Association of \$1152.20. These figures are for four issues of the Journal, July and October, 1943, and January and April, 1944.

Financial Statement
(August 1, 1943 to July 31, 1944)

Receipts

1943

Aug.	1	Cash on hand.....	\$ 2,796.00
Aug.	28	American Journal of Pharmaceutical Education, 1 subscription, \$2.00; 6 back numbers, \$3.00.....	5.00
Oct.	13	University of Iowa, College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	15	Loyola University, New Orleans College of Phar- macy, annual dues and Journal subscription.....	60.00
Oct.	15	Detroit Institute of Technology, College of Phar- macy and Chemistry, annual dues and Journal subscription.....	60.00
Oct.	16	University of Colorado, College of Pharmacy, an- nual dues and Journal subscription.....	60.00
Oct.	18	Ferris Institute, College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	18	University of Mississippi, School of Pharmacy, an- nual dues and Journal subscription.....	60.00
Oct.	18	Creighton University, College of Pharmacy, an- nual dues and Journal subscription.....	60.00
Oct.	18	Indianapolis College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	19	Alabama Polytechnic Institute, School of Phar- macy, annual dues and Journal subscription.....	60.00
Oct.	19	Rutgers University, New Jersey College of Phar- macy, annual dues and Journal subscription.....	60.00
Oct.	21	South Dakota State College, Division of Pharma- cy, annual dues and Journal subscription.....	60.00
Oct.	21	Louisville College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	21	Security National Bank, redemption of U. S. Treasury Bond, No. 95465-E.....	1,000.00
Oct.	23	Howard University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	23	Ohio Northern University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	23	Western Reserve University, School of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	25	University of Southern California, College of Phar- macy, annual dues and Journal subscription.....	60.00
Oct.	25	University of California, College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	25	Rhode Island College of Pharmacy and Allied Sci- ences, annual dues and Journal subscription.....	60.00
Oct.	28	Massachusetts College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	28	University of Nebraska, College of Pharmacy, an- nual dues and Journal subscription.....	60.00

Oct.	29	George Washington University, School of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	29	University of Minnesota, College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	29	University of South Carolina, School of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	30	Xavier University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Oct.	30	University of Maryland, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	1	Medical College of Virginia, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	1	Duquesne University, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	1	Fordham University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	4	Long Island University, Brooklyn College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	4	Purdue University, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	5	Temple University, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	8	University of Michigan, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	8	University of Pittsburgh, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	9	St. Louis College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	13	Drake University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	15	Medical College of the State of South Carolina, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	15	University of Idaho, Southern Branch, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	15	University of Buffalo, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	20	University of Connecticut, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	20	Philadelphia College of Pharmacy and Science, annual dues and Journal subscription.....	60.00
Nov.	22	University of Wisconsin, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	22	University of Kansas, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	23	University of Tennessee, School of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	23	University of Toledo, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	23	Oregon State College, School of Pharmacy, annual dues and Journal subscription.....	60.00

Nov.	26	University of Illinois, College of Pharmacy, annual dues and Journal subscription.....	60.00
Nov.	26	Columbia University, College of Pharmacy of the City of New York, annual dues and Journal subscription	60.00
Dec.	3	University of Oklahoma, School of Pharmacy, annual dues and Journal subscription.....	60.00
Dec.	6	University of Montana, College of Pharmacy, annual dues and Journal subscription.....	60.00
Dec.	11	The Ohio State University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Dec.	17	University of Florida, School of Pharmacy, annual dues and Journal subscription.....	60.00
Dec.	30	American Journal of Pharmaceutical Education, 32 subscriptions, \$64.00; 7 back numbers, \$3.60.....	67.60
1944			
Jan.	3	Treasurer of the United States, interest on bonds	18.75
Jan.	3	State College of Washington, School of Pharmacy, annual dues and Journal subscription.....	60.00
Jan.	6	North Dakota Agricultural College, School of Pharmacy, annual dues and Journal subscription....	60.00
Jan.	6	Security National Bank, interest on bonds No. 115081 A, \$16.25; No. 55510 L, \$15.00.....	31.25
Jan.	7	University of Washington, College of Pharmacy, annual dues and Journal subscription.....	60.00
Jan.	19	West Virginia University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Jan.	31	University of North Carolina, School of Pharmacy, annual dues and Journal subscription.....	60.00
Jan.	31	American Journal of Pharmaceutical Education, 30 subscriptions, \$60.00; 16 back numbers, \$8.00; 1 full page advertisement, \$25.00.....	93.00
Feb.	2	Wayne University, College of Pharmacy, annual dues and Journal subscription.....	60.00
Feb.	25	University of Georgia, School of Pharmacy, annual dues and Journal subscription.....	60.00
Feb.	29	American Journal of Pharmaceutical Education, 116 subscriptions, \$232.00; 1 back number, 50¢.....	232.50
Mar.	7	University of Puerto Rico, College of Pharmacy, annual dues and Journal subscription.....	60.00
Mar.	27	American Journal of Pharmaceutical Education 52 subscriptions @ \$2.00, \$104.00; 1 subscription, \$1.50; 1 back number, 50¢.....	106.00
Apr.	7	Treasurer of the United States, interest on U. S. Savings Bond, Series G.....	12.50
Apr.	29	American Journal of Pharmaceutical Education, 12 subscriptions	24.00
Apr.	29	Security National Bank, redemption U. S. Treasury Bond No. 115081 A.....	1,000.00
		Interest on U. S. Treasury Bond No. 115081A.....	16.25

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May	8	University of Texas, College of Pharmacy, annual dues and Journal subscription.....	60.00
May	31	American Journal of Pharmaceutical Education, 4 subscriptions, \$8.00; 1 back number, 50¢.....	8.50
June	30	American Journal of Pharmaceutical Education, 2 subscriptions, \$5.00; 8 back numbers, \$4.00.....	9.00
July	1	Security National Bank, interest on savings account	14.37
July	1	Treasurer of the United States, interest on U. S. Savings Bonds, Series G.....	18.75
July	31	American Journal of Pharmaceutical Education, 2 subscriptions, \$4.00; 1 back number, 50¢.....	4.50
July	31	Security National Bank, interest on U. S. Treasury Bond	15.00
July	31	United States Government Bond in safety deposit box No. 591, Security National Bank, Brookings, South Dakota, U. S. Savings Bond, Series G, No. M-395380-G	1,000.00
			<hr/> \$10,089.22

Disbursements

1943

Aug.	19	Frances Larson, stenographic services for chairman of the executive committee.....\$	75.00
Aug.	24	R. A. Lyman, postage, \$8.00; P. O. deposit for July Journal, \$5.00; stenographic service for July and August, 45 hrs. @ 35¢, \$15.75.....	28.75
Aug.	25	Charles H. Rogers, postage, June 12, 1943, \$6.00; July 12, 1943, \$12.00.....	18.00
Aug.	25	University of Minnesota, mimeograph material sent to deans of member-colleges, Jan. 14 to July 21, inclusive	17.45
Aug.	25	University of Minnesota, telegrams and telephone calls to deans and members of War Emergency Committee, May 5 to July 12, 1943, inclusive.....	64.65
Aug.	31	Clafin Printing Company, 700 July Journals, 144 pages and cover, 148 pages @ \$2.20.....	325.60
Aug.	31	Clafin Printing Company, letterheads and envelopes	10.60
Sept.	1	Charles H. Rogers, postage, Aug. 19, 1943.....	10.20
Sept.	1	University of Minnesota, mimeograph material sent to deans of member-colleges, Aug. 11 to Aug. 18, inclusive	1.40
Sept.	20	University of Minnesota, additional telephone and telegram statements for month of July, 1943, covering notice to deans of member-colleges.....	59.76
Oct.	7	R. A. Lyman, expense of attending annual meeting at Columbus	63.90
Oct.	7	The Master Reporting Co., Inc., reporting Columbus meeting	118.44
Oct.	7	Charles H. Rogers, expense of attending annual meeting at Columbus	45.00

Report of the Secretary-Treasurer

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Oct.	7	University of Minnesota, telegrams and telephone calls	12.73
Oct.	7	Clark T. Eidsmoe, expenses attending annual meeting at Columbus.....	90.05
Oct.	7	B. V. Christensen, expenses of attending meeting of American Council on Education, Baltimore.....	49.49
Oct.	13	Security National Bank, Series G Bond No. M-1826467-G	1,000.00
Oct.	18	The Ohio State University, warehouse account, express from C. H. Rogers, Minneapolis, Minn.....	3.13
Oct.	22	University of Minnesota, printing A. A. C. P. Credentials, \$3.00; mimeographing, \$4.80.....	7.80
Oct.	28	Postmaster, Brookings, S. Dak., postage stamps....	25.00
Nov.	18	The Register Publishing Company, 4000 letter-heads, \$21.20; 5000 envelopes, \$21.30; tax, 85¢.....	43.35
Dec.	18	National Drug Trade Conference, annual dues.....	25.00
1944			
Jan.	3	Bank debit, exchange on check, Toronto, Canada....	.20
Jan.	10	Clafin Printing Company, 700 October Journals, 216 pages and cover and insert, 222 pages @ \$2.20, \$488.40; cut of president, \$6.50.....	494.90
Jan.	10	Louis A. Wilson, secy. Sixth Dist. N. A. B. P. and A. A. C. P., half expense of publishing proceedings	25.00
Jan.	29	Pharmaceutical Syllabus Committee, annual contribution	50.00
Jan.	29	B. V. Christensen, expenses, War Emergency Advisory Committee trip to Washington, D. C.....	11.30
Jan.	29	W. F. Rudd, expenses, War Emergency Advisory Committee trip to Washington, D. C.....	15.26
Jan.	31	Clafin Printing Company, 200 reprints of constitution and by-laws.....	9.10
Jan.	31	The Ohio State University, College of Pharmacy, mimeographing, \$7.50; postage, \$15.54.....	23.04
Feb.	17	R. A. Lyman, postage, \$20.00; stenographic service, \$38.85	58.85
Mar.	8	American Council on Education, annual constituent membership dues.....	100.00
Mar.	13	H. C. Newton, treas. Dist. No. 1, N. A. B. P. and A. A. C. P., allowance for publishing proceedings..	25.00
Mar.	27	Clafin Printing Company, 700 January Journals, 152 pages and cover and insert, 158 pages @ \$2.20, \$347.60; cut, \$5.90; index, \$56.00.....	409.50
Apr.	1	Security National Bank, exchange on check.....	.60
May	6	Security National Bank, Series G Bond No. M-2719979-G	1,000.00
May	6	R. A. Lyman, postage, \$18.00; stenographic service, \$31.50	49.50
May	25	R. E. Terry, secy.-treas. Dist. No. 4, half expense of publishing proceedings District No. 4, N. A. B. P. and A. A. C. P.	25.00

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May	25	B. Olive Cole, expenses incurred in attending meeting of American Council on Education.....	12.02
May	25	W. F. Rudd, expenses incurred in attending meeting of American Council on Education.....	23.97
May	25	American Council on Pharmaceutical Education, annual contribution	600.00
May	31	Security National Bank, safety deposit box rental	1.20
June	8	J. Emmett Brown, secy., Dist. No. 3, N. A. B. P. and A. A. C. P., half expense of publishing proceedings of District No. 3, N. A. B. P. and A. A. C. P.	25.00
June	8	R. L. Swain, treasurer, Committee on Status of Pharmacists in Government Service, contribution to work of above committee.....	100.00
June	14	The Ohio State University, College of Pharmacy, mimeographing, \$5.75; postage, \$14.00; envelopes, \$1.25	21.00
June	23	Clafin Printing Company, 700 April Journals, 132 pages and cover, 136 pages @ \$2.20.....	299.20
June	23	Register Publishing Company, 500 credential blanks	7.00
July	24	The Ohio State University, College of Pharmacy, stenographic services	97.20
July	24	Clafin Printing Company, 200 reprints.....	3.10
July	24	Lincoln Memorial Library, binding two volumes of the Journal, one for the Congressional Library and one for the secretary's office.....	2.20
July	24	Florence Venables, stenographic work for secretary	49.35
July	24	Clark T. Eidsmoe, express, stationery, receipt books, telegrams, telephone calls, mailing charge	11.32
July	24	B. V. Christensen, honorarium, chairman, executive committee	100.00
July	24	R. A. Lyman, honorarium, editor of Journal.....	100.00
July	24	Clark T. Eidsmoe, honorarium, secretary-treasurer	100.00
July	31	R. A. Lyman, postage, \$15.00; telegrams, \$2.80; stenographic service, \$21.00.....	38.80
July	31	Cash on hand.....	3,105.22
July	31	United States Savings Bond belonging to checking account.....	1,000.00
			<hr/> \$10,089.22

Summary of Receipts

Cash on hand, July 31, 1943.....	\$ 2,796.00
United States Savings Bond.....	1,000.00
Dues from 60 member-colleges for 1943-44.....	3,600.00
Income from American Journal of Pharmaceutical Education	550.10
Redemption of United States Treasury Bonds.....	2,000.00
Interest	143.12
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\$10,089.22	

Summary of Disbursements

Reporting annual convention.....	\$ 118.44
Expenses of the chairman of the executive committee to the Columbus meeting	45.00
Expenses of the secretary-treasurer to the Columbus meeting	90.05
Expenses of the editor of the American Journal of Pharma- ceutical Education to the Columbus meeting.....	63.90
Allowance paid to Districts N. A. B. P. and A. A. C. P.....	100.00
Contributions	775.00
Annual dues to American Council on Education.....	100.00
Honoraria	300.00
Printing American Journal of Education.....	1,529.20
Clerical assistance for officers and editor.....	365.55
Postage, express, telegrams, telephones, etc.....	300.33
Stationery and printing.....	77.49
Expenses of representatives to various meetings.....	112.04
Purchase of U. S. Savings Bonds.....	2,000.00
Miscellaneous	7.00
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	\$ 5,984.00

Clark T. Eidsmoe,
Secretary-Treasurer.

Report of the Executive Committee

A questionnaire was sent out early in October requesting information concerning the attitude of the several member colleges with reference to the activities of the War Emergency Committee and also requesting information concerning enrollment of students in the college. The replies to this questionnaire indicated that it was the consensus of opinion of the colleges that the War Emergency Committee should continue efforts to secure more favorable terms for deferment of students in pharmacy and to use its best judgment in reference to procedure and other questions of importance which might come up in the course of developments. With reference to enrollment data, according to reports of the colleges, the total number of students enrolled in the fall of 1934 was 3,546 of which 2,404 were men and 1,142 women. Of the men, 348 were reported as being under 18 years of age; and 356 were reported as classified 4F. 725 men and 215 women were re-

ported as seniors which would indicate about 900 graduates for the current year.

The American Foundation for Pharmaceutical Education requested that the Executive Committee of the American Association of Colleges of Pharmacy formulate a statement of policy covering administration by the colleges and awarding by the Foundation of scholarships and grants in aid to the colleges. A subcommittee (Dean Jenkins, Chairman; Dean Serles, and Professor Burlage) of the Executive Committee was appointed to study this question and make recommendations. This was done and the proposed statement of policy was submitted to the colleges for approval late in December, 1943. A majority of the colleges favored this statement with the understanding that modifications would be made on the basis of experience. This statement was also referred to the Foundation for consideration. Member colleges were supplied with a copy for their files. A complete report will be submitted at this convention by the subcommittee.

The Armed Forces Committee on Post-War Educational Opportunities for Service Personnel, Colonel Francis T. Spaulding, Secretary, asked for a statement from the Association covering the major issues to be faced in connection with post-war training in pharmacy. Such a statement was prepared and forwarded to Secretary Spaulding under date of January 11, 1944. I am quoting as follows from the reply acknowledging receipt of this report: "The statement is so clear and the facts presented are so relevant to the issues raised that the report will, I am certain, be of exceptional value to the Armed Forces Committee." An abstract of this report was published in the *American Journal of Pharmaceutical Education*, Volume VIII, (April, 1944) page 182.

A special meeting of the Board of Directors of the American Foundation for Pharmaceutical Education was held in New York, Monday, January 17, and the chairman of the Executive Committee attended as ex officio member. A number of important subjects were discussed and plans for carrying on the work of the Foundation were discussed and adopted. I was very favorably impressed with the constructive attitude and the vision of the members of this Board and I am hopeful and confident that this organization will become permanent

and a vital force in promoting the welfare of the profession through improvement of the educational process.

The chairman spent Tuesday and Wednesday, January 18 and 19, in Washington, D. C., on matters of importance to the Association, particularly in reference to deferment of students. Deans DuMez and Rudd and Dr. Kelly and I discussed a number of possibilities, made all contacts that might be helpful, and held such conferences as could be arranged and that offered possible encouragement. Dean DuMez, as chairman of the War Emergency Committee, submitted a report by mail covering these activities.

On invitation of the officers of the American Foundation for Pharmaceutical Education, a joint meeting of the Executive Committee of the Foundation and the Executive Committee of the Association was held at Foundation headquarters in New York, April 3, 1944. The agenda for this conference was prepared by both groups. A full day was given over to a discussion of critical problems confronting pharmaceutical education and the profession in general and how these organizations might aid in the solution of these problems. This conference resulted in a better understanding of the purposes and objectives for which the pharmaceutical industries and the educational representatives are striving. It was the feeling on the part of all concerned that a constructive program was under way and that all branches of the body pharmaceutical were united and cooperating in the fulfillment of this program. We, hereby, express the appreciation of the Executive Committee of the American Association of Colleges of Pharmacy to the American Foundation for Pharmaceutical Education for having made this meeting possible. A report of this conference was published in the *American Journal of Pharmaceutical Education*, Volume VIII (April, 1944), pages 238 and 242.

A special meeting of the Executive Committee was held in the Pennsylvania Hotel, New York, April 2, 1944. Since the members of this committee were in New York at that time to attend the joint conference with the Executive Committee of the American Foundation for Pharmaceutical Education, your Executive Committee took advantage of this interim opportunity to discuss a number of important matters requiring prompt attention. A report of this special meeting was pub-

lished in the *American Journal of Pharmaceutical Education*, Volume VIII (April, 1944) page 237.

The chairman of the Executive Committee attended the following meetings during the course of the Association year:

1. American Council on Pharmaceutical Education in October 1943 and August 1944.
2. American Foundation for Pharmaceutical Education in January 1944 and April 1944 as ex officio member of the Board of Directors.
3. War Emergency Committee in January 1944.
4. Special meeting of the Executive Committee of the A. A. C. P. in April 1944.
5. Annual meeting of Boards and Colleges of District No. 4 in May 1944.

Reports and information on various subjects pertaining to pharmaceutical education were submitted to the following organizations:

1. War Emergency Committee.
2. The Armed Forces Committee on Post-War Educational Opportunities for service personnel.
3. American Foundation for Pharmaceutical Education.
4. American Pharmaceutical Association.
5. National Pharmacy Committee on Public Information.

The following reports from schools and colleges of pharmacy were called for and the information tabulated and summarized:

1. Enrollment of students and suggestions to the War Emergency Committee (October 1943).
2. Enrollment in April, loss of faculty and graduate students (April 1944).
3. Annual report concerning (a) new students admitted since previous annual report, and (b) total enrollment for 1943-44 (March 1944).
4. Report on degrees awarded during the year 1943-44 (July 1944).

(1) Enrollment of Students—October 1943

Men				Total No.
Under 18	Men 4F	Total Men	Total Women	Students
348	356	2,404	1,142	3,546

(2) Enrollment of Students—April 1944

Men				Total No.
Under 18	Men 4F	Total Men	Total Women	Students
206	492	1,742	1,010	2,752

(3a) New Students Admitted During 1943-44

Number of colleges submitting reports—59

Freshmen	1,325
With previous college training	344

Total	1,669
With degrees	52
On certificate	1,660
By examination	9

Total	1,669
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Experience

Less than one year	131
One year or more	330

Total	461
Colleges not reporting experience	18

(3b) Total Enrollment, 1943-44

Freshmen	1,203
Sophomores	786
Juniors	737
Seniors	1,174
Special	228

Total	4,128
Graduate students	112
Auditor	1

(4) Degrees Awarded During the Year 1943-44

Number of colleges submitting reports—60

Bachelor of Science in Pharmacy	1,162
Master of Science in Pharmacy	25
Master of Science with major in Physiology and Pharmacology	1
Doctor of Philosophy	9
<i>Honorary Degrees</i>	
Master of Pharmacy	1
Doctor of Pharmacy	2
Doctor of Laws	2
Doctor of Science	1

Comparisons

	1942-43	1943-44	Percent Decrease
New students	2,047	1,669	18.4
Previous college training	445	344	22.7
Entering students holding degrees	50	52	
*Total enrollment	6,935	3,546	48.8
Women	1,203	1,142	
B. S. Degrees awarded	1,583	1,162	26.6
Master of Science in Pharmacy	6	25	
Doctor of Philosophy	11	9	
(*) Fall Term			

B. V. Christensen, Chairman

Report of the Committee on the Relation of Boards and Colleges--1944

If District No. 8 holds a meeting this week as they had planned to do, all but one of the eight districts of boards and colleges will have held meetings since our convention of a year ago. I believe this is something of a record for recent years and it is particularly pleasing because of the difficult problems regarding transportation and hotel accommodations that have been with us throughout the year. I feel that it is a very good indication of the value of these district conferences when nearly 100 per cent of the districts have held meetings regardless of the difficulties and inconveniences involved. All the districts reported good meetings, surprisingly well attended, and well worth the time and effort involved.

A brief summary of the report of the meeting in each district follows:

District No. 1

(Maine, New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island)

This district, comprising the New England States, met in New Haven on April 3 and 4. Professor Leslie B. Barrett presided for the colleges and Mr. Duane Aldrich for the boards. Every board and college in the district was represented by delegates, and the total attendance was about forty-five which was approximately the same as the attendance the year before.

At the meetings considerable attention was paid to board examination questions, particularly those relating to pharmaceutical calculations. State board questions are excellent topics for discussion for they are of interest to both groups represented. An attempt was made to find out what improvement is occurring in the board examinations as a result of these district meetings. A panel discussion on present and post-war problems of boards and colleges was a feature of one of the sessions. Dr William T. Salter, chairman of the department of pharmacology of the Yale Medical School, was the guest speaker at one of the sessions. Following the annual banquet two speakers were heard, Dr. George A. Moul-

ton, president-elect of the American Pharmaceutical Association, and Dr. Albert N. Jorgensen, president of the University of Connecticut.

A number of resolutions were adopted but most of these were only of district interest. The following resolution should be brought to the attention of the national organizations:

1. BE IT RESOLVED: That District No. 1 recommend to the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy that the paper entitled, "How Efficient is Secondary School Training in Arithmetic" by Professor Boughton of the college of pharmacy of the University of Kansas and read at the Richmond meeting be called to the attention of all state educational commissioners. In the opinion of this district the pharmaceutical educators would be rendering a distinct contribution to the education of our youth by sending copies of this paper to the commissioners of education in the various states.

The meeting recommended that Professor Eldin V. Lynn of the Massachusetts College of Pharmacy be made chairman for the colleges for the next meeting, and Charles Gilson of Rhode Island, vice-president for the boards. The meeting next year is scheduled for Boston, Massachusetts.

District No. 2

(New York, New Jersey, Delaware, Pennsylvania, Maryland,
District of Columbia, Virginia, and West Virginia)

I am pleased to report that after two years of inactivity, insofar as meetings are concerned, this district held a conference at the Hotel Washington in Washington, D. C., on April 16 and 17. Dean O'Connell was chairman for the colleges and the board vice-president in this district was Mr. George Brittingham. The secretary, Professor George Schicks, reports that the highlight of the meeting was the desire to return to the regular program of study and as soon as possible to discontinue the accelerated course. The attendance was about sixty, which was somewhat smaller than that at the meeting in 1941, the last regularly held in this district.

Resolutions adopted by this district which are of national interest are as follows:

1. WHEREAS, Many men now in military service are, or have been engaged in military programs of instruction; and

WHEREAS, Such instructions entail the problem of credit to be granted for this instruction; be it

RESOLVED, That the members attending the April, 1944, meeting of District No. 2 request the proper authorities in our field to determine or evaluate credits received in military service programs of education without lowering our present standards of accreditation.

2. WHEREAS, We may expect public gratitude and appreciation due to our men and women in the armed services to exert considerable influence and legislative pressure at the end of this war; and

WHEREAS, Such pressure may in some instances be dangerous to both their academic program and our professional status; be it

RESOLVED, That we, the members of District No. 2, Boards and Colleges, go on record as apposing vigorously any efforts to lower academic standards or efforts to provide pharmacy licensure without full college and experience requirements.

It was voted to hold next year's meeting in Philadelphia, Pennsylvania.

District No. 3

(North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Puerto Rico)

This district also had held no meeting for two years and it was welcome news to learn that they met on April 18 and 19 at the Biltmore Hotel in Atlanta, Georgia, with thirty-eight in attendance. Every state in the district except North Carolina was represented. Dean Robert C. Wilson served as chairman for the colleges of this district and Malcolm W. Forte as vice-president of the boards.

An excellent program was carried out and a mimeographed copy of the proceedings, including the principal papers, was in my hands a little over a month after the meeting was held. This is somewhat of a record, as often the proceedings are not published for over a year, and in some cases they are never printed and distributed.

This district adopted the following resolutions which should be brought to the attention of the national organizations:

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1. WHEREAS, There are some who have had their pharmacy education interrupted by war conditions and others who have obtained various forms of training in service courses, therefore

BE IT RESOLVED that the American Association of Colleges of Pharmacy be requested to work out whatever plans may be deemed wise in the protection of our educational standards and in the interest of the public health.

BE IT FURTHER RESOLVED that District No. 3 request the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy to give proper consideration to uniform evaluation of this work.

2. Believing that druggists are inadequately supplied with information about modern medicinals and this information should be at their finger tips,

BE IT RESOLVED that District No. 3 approve a clearing house either by the National Association of Boards of Pharmacy, the National Association of Retail Druggists, or the American Pharmaceutical Association, whereby this material might be screened and abstracted on cards suitable for filing, with name of product, manufacturer's name, indications, active constituents, dose, and how supplied. This information on cards be supplied to retail druggists.

3. WHEREAS, The National Pharmacy Committee of Public Information will inaugurate a public relations program, and

WHEREAS this program of public relations must of necessity begin in the retail drug stores of America and must have the co-operation of all branches of the drug industry including that of the boards and colleges of pharmacy in the carrying forward of this public relations program,

BE IT RESOLVED that the Third District of boards and colleges assume their share in this important work and recommend that all boards and college faculties cooperate in every way possible with the retail pharmacists in advancing pharmacy in the minds of the public through a sound and dignified public relations program.

4. WHEREAS, Believing there is a need for a law on minimum standards of technical equipment and the strengthening of all laws protecting the health of the public in the several states,

BE IT RESOLVED that District No. 3 of the boards and colleges urge all states to inaugurate a program of legislation in their respective states whereby our pharmacy laws regulating the practice of pharmacy may be brought up to date with improvements in pharmaceutical practice and procedure.

J. Emmett Brown of Florida was elected district secretary at the meeting. No recommendations were made in regard to

other officers for the district, nor was a time and place set for the 1945 meeting.

District No. 4

(Illinois, Indiana, Kentucky, Michigan, Ohio, and Wisconsin)

This District met on May 1 and 2 in Madison, Wisconsin. Dr. A. H. Uhl presided as chairman for the colleges and Mr. L. V. Fay as district vice-president for the boards. An attendance of twenty-eight delegates was attained which is somewhat smaller than that of a year ago, but is explained by Secretary R. E. Terry, who says that there was great difficulty in setting a time suitable to all. All colleges of the district except the University of Toledo had delegates present. The Kentucky board and the Indiana board were in session in their respective states at the time of this district meeting, but the Indiana board did send one delegate. According to the secretary, the high points of the meeting were a free and extended discussion of the problems of practical experience and the proper method of control for the apprenticeship year. This is to be an important item on the business for the next district meeting. An exhibit of about fifty volumes printed between 1535 and 1937 illustrating the development of pharmaceutical textbooks in Italy, France, Spain, Germany, England, and the United States was prepared by Dr. George Ur-dang and created much interest because of the historical value of the exhibit.

Most of the resolutions adopted were of a local nature, but the following which deal with practical experience evaluation might be of interest nationally:

WHEREAS, there is a very definite feeling within the membership of this conference relative to the value and effectiveness of the practical experience gained in drug stores of District No. 4, and

WHEREAS, this problem was suggested by Director A. H. Uhl in his address as chairman of the colleges as a suitable project for study by the members of District No. 4, as well as in another paper by Mr. J. P. Lee and discussed at some length by the conference without definite conclusions being reached; be it

RESOLVED: That a committee, as provided for in a previously approved resolution, be appointed to undertake a program coordinating academic study and practical experience.

Louisville, Kentucky, was selected as the place for next year's meeting and the recommendations were that Dean G. L. Curry be made chairman for the colleges and Mr. Oscar Voteler be made vice-president for the boards in this district. Professor Ralph E. Terry was re-elected district secretary.

District No. 5

(Iowa, Minnesota, Nebraska, North Dakota, South Dakota)

The meeting of this district was held at the Alonzo-Ward Hotel, Aberdeen, South Dakota, on May 8 and 9, 1944. An excellent program was arranged. Professor Charles V. Netz presided as chairman for the colleges and Bliss C. Wilson was vice-president of the boards. J. F. Rabe was district secretary. The total attendance was twenty-two, which was just slightly larger than that of a year ago. All states in the district were represented by both board and college members. Some of the topics discussed were rehabilitation of pharmacists discharged from the armed forces, evaluation of pharmaceutical work done in the armed forces against collegiate courses, the effect of the present shortage of registered pharmacists on adequate civilian pharmaceutical service and on the trend toward professional pharmacy, the failure of Selective Service to recognize the need for a continuous training program to provide civilian pharmacists and the probable effect on civilian pharmaceutical service, lack of uniformity in the educational requirements which some boards of pharmacy set up for reciprocity between states, the effect of the undignified publicity upon the prestige of pharmacy, the desirability of a pre-pharmacy year of study in the Arts College as a screening process for a four year course embodying only professional study, the desirability of a more practical type of examination for licensure with considerable credit allowed for didactic work already completed in colleges and universities, adjustment of curricula in pharmacy colleges to better train the graduates in giving general health service to civilians, the need for better statistical records by boards of pharmacy to aid in determining the necessary replacements for pharmacists and the proper distribution of drug stores for necessary pharmaceutical service, post-war enrollment in colleges and schools of pharmacy and the application of screening methods to insure qualified students, pharmacy's place in socialized medicine, and deceleration of pharmacy courses. It

was generally accepted that all accelerated pharmacy courses would be discontinued in District No. 5 by September, and the regular four year course of nine months be re-established.

The college chairman of the district mailed to each of the delegates in attendance at his own expense five snapshots of groups and individuals taken at the conference, and this was an innovation insofar as these district meetings are concerned. Excellent publicity regarding this meeting was obtained in the June, 1944, issue of the "Northwestern Druggist."

Of the resolutions adopted by this district, the following would seem to have national interest:

1. WHEREAS, Some state pharmacy laws leave to the discretion of the board of pharmacy, the schools of pharmacy which they can recognize as satisfactory for meeting the requirements for examination,

WHEREAS, some differences exist relative to the recognition of colleges by some boards for this purpose and for reciprocity, therefore

BE IT RESOLVED: That District No. 5 recommends that boards of pharmacy give full recognition to college work completed in schools and colleges of pharmacy accredited by the American Council on Pharmaceutical Education, and further

BE IT RESOLVED: That the state boards of pharmacy in each state accept and admit all graduates of Council accepted schools for admission to examination.

2. WHEREAS, Medicine, dentistry, and other professions have required a pre-college year and

WHEREAS, Pharmacy would have a higher public regard were a pre-college year required, and a higher type student and pharmacist obtained,

BE IT RESOLVED: That it is now time that consideration be given for the establishment of a pre-pharmaceutic year as a requirement for the study of pharmacy.

Dean F. J. LeBlanc of South Dakota, and Mr. V. E. Feit of Minnesota were recommended respectively as chairman of the colleges and vice-president of the boards for this district. J. F. Rabe of Iowa was re-elected secretary-treasurer. It was decided to hold the next meeting in the Twin Cities, Minnesota.

District No. 6

(Arkansas, Kansas, Louisiana, Missouri, Oklahoma, Texas)

This district did not hold a meeting during the year, although they had planned on meeting at the Hotel Eastman in Hot Springs, Arkansas in April. The Army and Navy took over the hotel as a hospital annex and it was impossible to get any accommodations at the time that the meeting was originally planned. Dean A. F. Schlichting, who served as chairman for the colleges in this district, wrote me that "Urgent letters from the Office of Defense Transportation pleaded for cancellation of the meeting on account of added strain on public transportation," and so after a conference with Mr. J. E. Berry, vice-president for the boards, it was decided to cancel all arrangements.

I sincerely trust that a meeting of this diistrict will be held in the coming year.

District No. 7

(Idaho, Montana, Oregon, Washington, Wyoming, Alaska)

This district met in Spokane, Washington, on April 7 and 8. The attendance was slightly larger than in 1942. No meeting was held in this district last year. The chairman of the colleges was Dean E. O. Leonard and vice-president for the boards was Mr. R. D. Dame. Mr. Haakon Bang, secretary-treasurer, reports that the highlights of the meeting were: (1) A better understanding of awards of the American Foundation for Pharmaceutical Education Scholarships, (2) A better understanding of government subsidies which will be given to World War II veterans, (3) Stimulation of action on encouraging desirable people to study pharmacy, and (4) A better understanding between boards and colleges of the district.

Resolutions adopted by this district that are of national interest are as follows:

1. BE IT RESOLVED that we recommend to our college and university schools of pharmacy that credit allowed to returning veterans of World War II be as generous as practical in keeping with recognized standards of pharmaceutical education.
2. BE IT RESOLVED that we recommend to the administration of our colleges of pharmacy that it is desirable that their faculty members should have had practical experience in pharmacy, and

especially to those faculty members teaching practical pharmacy subjects.

3. BE IT RESOLVED that a joint meeting of the boards of pharmacy and faculties of the schools of pharmacy of District No. 7 go on record as opposed to the Murray-Wagner-Dingle bill of social security.

Spokane was selected for next year's meeting to be held in April, 1945. For college chairman, Dean Adolph Ziefle of Oregon was recommended, and for vice-president of the boards, Mr. Roy Price of Washington. Mr. Haakon Bang was re-elected secretary-treasurer of the district.

District No. 8

(Arizona, California, Colorado, Nevada, New Mexico, Utah)

Dr. Troy C. Daniels, chairman for the colleges of this district, has informed me that due to difficulties in respect to hotel accommodations and transportation, they have decided to hold the district meeting at the time of the national association meeting and so a supplementary report of this will have to be added later as was done a year ago.

The meeting was held at Cleveland on August 9, with representatives of three of the colleges and two of the boards present. The following resolutions were adopted:

1. RESOLVED, That in the selection of the members for the American Council on Pharmaceutical Education that every effort should be made to obtain representatives from all sections of the country. It is the unanimous opinion of this group that such representation will be in the interest of better relations between the several districts.

2. RESOLVED, That the American Association of Colleges of Pharmacy and the American Council on Pharmaceutical Education should adopt at the earliest date practicable (not more than two years following the close of the war) a pre-pharmacy year. This resolution is in conformity with the recommendation of the Committee on Post-War Planning.

It was recommended by the meeting that Professor David W. O'Day of the University of Colorado be appointed chairman for District No. 8 of the colleges for 1945, and that Ralph E. Kemp of Colorado be named vice-president for the boards.

Summary and Conclusions

In looking over the results of all of these district meetings, one thing stands out quite prominently and that is the lack of

uniformity in respect to an election of a chairman for the colleges and boards in each of these districts for the next year. Some of the districts make no recommendations at all, leaving it entirely to the national group to select their representatives for the various districts. It is my understanding that in the case of the boards, the district vice-presidents are part of the nominations for officers and properly come before the national meeting. In the case of the colleges, I believe the selection of the chairman for each district is left to the incoming president of the American Association of Colleges of Pharmacy.

I think that all districts should make recommendations concerning new officers as I believe this is of great help to the national organizations, but it is my understanding that these recommendations are not binding and that the final decision should rest with the proper authorities of the parent organizations.

The general desire seems to be to discontinue the accelerated program as soon as possible—the reports of two districts make special mention of this. The means of encouraging more students of the right type to study pharmacy was on the program for most districts, as well as plans for fitting returning service men into their rightful places in the colleges or in the practice of the profession.

I want to thank the officers of each district for their splendid cooperation in furnishing me with the necessary information for this report. It has made my work much easier and I greatly appreciate their support. I also want to thank the president of the American Association of Colleges of Pharmacy for his many helpful suggestions in connection with the work of the committee.

Henry S. Johnson, General Chairman

Report of the Committee on Libraries

In the brief report of this committee for the 1943 meeting we called your attention to the list of "Pharmaceutical Journals and Their Abbreviations" which was published in the American Journal of Pharmaceutical Education for April,

1943. We again make reference to this list in an effort to call your attention to the suggested abbreviations for the titles. Insofar as possible the committee was guided by the abbreviations given by *Chemical Abstracts* in the latter's "List of Periodicals Abstracted". In its "Notice to Authors of Papers" the Scientific Edition of the Journal of the American Pharmaceutical Association requests that the references cited in papers submitted for publication be abbreviated according to this same system. The authors of papers for these journals should be encouraged to assist in this respect.

Following up the suggestion which was made some time ago, that it would be of value to have lists of text books made available, the members of this committee were asked to aid in this project. Each was asked to cover a field as nearly related to his work as possible, namely, E. V. Lynn, chemistry; E. J. Ireland, pharmacy; E. T. Stuhr, materia medica; and George Urdang, history, ethics, and literature. The chairman assumed the task of preparing Supplementary List No. 3 of the journals. Doctors Urdang, Lee, and Professor Stuhr have completed their assignments which are being made a part of this report.

The reports of Dr. Urdang and Prof. Stuhr are extensive and will tell their own stories when published and do not need to be commented upon at this time, except to say that we are much indebted to them for the time and effort spent upon their assignments. Concerning the supplementary list of journals, it is felt that a brief explanation is necessary.

In 1943 the second edition of the *Union List of Serials* appeared. This is perhaps the most complete and authoritative reference to periodicals to be found. In comparing our list with the *Union List of Serials* we found that for the American, Canadian, and even the leading journals of foreign countries, our list compared favorably. The *Union List of Serials*, however, has many journals of foreign countries, especially of the older journals, that we do not have. Feeling that it might be of value to have these titles taken from the *Union List* and made more readily available, your committee submits them as Supplementary List No. 3.

In looking over this list it will be observed that they are nearly all of foreign origin. An effort has been made to avoid

the repetition of titles of the prior list. It is too much to expect that this compilation is wholly complete or without errors. It is a hard task to glean all of the titles pertaining to pharmacy even from such a well arranged reference as the Union List of Serials. It is, however, being submitted for your consideration.

C. O. Lee, Chairman

Supplementary List No. 3

- Annales de pharmacie. Louvain. 1-20, 1895-1914.
Annali di farmacoterapia e chimica biologica. Milan. v. 1, 1824 to v. 31, 4th series, 1900.
(Many changes of title through the four series)
Annals of pharmacy and practical chemistry. London. 1-3, 1852-54.
Annuaire pharmaceutique. Paris. 1-12. 1863-74.
Superseded by Annuaire de la pharmacie française.
Annuaire de la pharmacie française et étrangère. Paris. 1, 1875-76.
Apoteek. Amsterdam. 1-4, 1933-1936.
Supplement to Pharmaceutisch Weekblad voor Nederland. v. 4 unnumbered.
Apotheken-Werbung. Berlin. 1, 1931—
Supplement to Deutsche Apotheker-Zeitung.
Apotheker. Wetzler. 1-10, 1861-70.
Apotheker-Verein in Württemberg, Correspondenz-blatt. Stuttgart. 1-10, 1833-42.
Archiva de pharmacia a ciencias accessories da India portugueza. Nova-Goa. 1-8, 1864-71.
Supersedes Jornal de pharmacia e ciencias medicas da India portugueza.
Archives de pharmacie. Paris. 1-3, 1886-88.
Merged into Repertoire de pharmacie.
Australasian Chemist and Druggist. Melbourne. 1-8, 1878-85.
Superseded by Australasian journal of pharmacy.
Bulletin de pharmacie de Lyon. Lyons. 1-24, 1879-1902.
Cercle pharmaceutique du Hainaut.
See Revue pharmaceutique. Ghent.
Chemical times and journal of pharmacy. London. 1-5, 1846-49.
1-3, 1846-48 as Pharmaceutical times and journal of chemistry.
Deutsche Apotheker-Zeitung. Leipzig; Stuttgart; Eichstädt. 1-9, 1866-84. 1-5, 1866-70 as Apotheker-Zeitung für Mittel-Deutschland; 6-15, 1871-80 Apotheker-Zeitung.
Drug ditel. Karkov. 1-8, 1926-33.
Drug invalida. Shanghai. 1-7, 1931-37.
Drug iunoshestva i vsiakikh liet. Moscow. 1-9, 1807-15.
1807 as Drug iunoshestva.
Farmaceuta polski. Warsaw. 1-17, 1898-1914.
1-4, 1898-1901 as Przegląd farmaceutyczny.
Farmaceutico. See Farmacia. Cali, Colombia.
Farmaceutico universal. Mexico. v. 1, No. 1, 1896.

- Farmaceutisk tidende. Copenhagen. 1, 1890—
 Farmaceutisk tidskrift. Stockholm. 1-38, 1860-1897.
 Farmaceutiskt notisblad. Helsingfors. 21, 1912—
 Farmacia. Buenos Aires. (16) 1921.
 Farmacia. Naples. 1, 1889.
 Farmacia. Santiago. Chile. 1-3, 1935-38.
 Farmacia (Sociedad farmaceutica Mexicana). Mexico. No. 1-14, 1890-95.
 Farmacia. Rivista settimanale di farmacia, Chimica e scienze affini. Rome. 1-3, 1879-82.
 Farmacia española. Madrid. 1-63, 1869-1931.
 Farmacia moderna. Havana. 1-2, 1932-1933.
 Farmacia moderna. Madrid. 1-46, 1890-1935.
 Farmacista italiano ed il metodo pratico.
 Rivista mensile di scoperte chimico-farmaceutiche e mediche. Naples. 1-4, 1877-1900.
 Gazetta medico-pharmaceutico. Bologna. 1, 1899.
 Giornale di farmacia. Trieste. 1-12, 1896-1907.
 Giornale di farmacia, di chimica, e di scienze affini. (Società di farmacia di Torino) Turin. 1, 1852—
 Giornale di farmacia, chimica, e scienze accessorie.
 See Annali de farmacoterapia e chimica biologica.
 Gazeta de pharmacia. Lisbon. 1-15, 1884-98.
 Heraldo farmaceutico.
 Tegucigalpa, Honduras. 1, 1929—
 Jornal de pharmacia e chemica. Lisbon. 1-3, 1887-89.
 Jornal de medicina e pharmacia. Paris. 1-2, 1886-87.
 Supersedes Rivista de Medicina (Paris).
 Jornal de pharmacia a sciencias accessorias de Lisboa. Lisbon. 1-38, 1848-85.
 Jornal de pharmacia e sciencias medicas da India portugueza.
 Nova-Goa. 1-2, 1862-63.
 Superseded by Archivo de pharmacia e sciencias accessorias de India portugueza.
 Journal de pharmacie (Société des pharmaciens de Paris). Paris. 1-3, 1797-99.
 Merged into Annales de Chemie, later Annales de chimie et de physique.
 Magazin für Pharmacie.
 See Liebig's Annalen der Chemie.
 Monthly magazine of pharmacy, chemistry, medicine, etc. London.
 Nos. 1-398, 1876-1909.
 Monumenta pharmaceutica. Amsterdam. 1-5, 1914-15.
 Ny pharmaceutisk tidende. Copenhagen. 1862-67 (NS) 1-27, 1868-95.
 1862-67 as Pharmaceutisk tidende.
 Oesterreichische Pharmazeutische Gesellschaft. Berichte. Vienna. 1-14, —1894.
 Oesterreichische Zeitschrift für Pharmazie.
 See Zeitschrift Allgemeiner Oesterreichischer Apotheker-Verein. Vienna.
 Pharmacal gazette. Montreal. No. 1-4, 1896.
 Merged in Canadian pharmaceutical journal.

- Pharmaceutical journal of Australasia. Sydney.
NS v. 1-11, 1888-98.
NS v. 1-3 as Pharmaceutical journal of New South Wales.
- Pharmaceutical repertory. London 1-2, 1844-46.
The pharmaceutical numbers of the Medical Times, 1839-51.
Merged into Pharmaceutical Times, later Chemical Times and Journal of Pharmacy.
- Pharmaceutical Times and Journal of Chemistry. See Chemical times and journal of pharmacy.
- Pharmaceuticals and Cosmetics. London. 1-2, 1935-36.
Supplement to Industrial chemist and chemical manufacturer.
- Pharmaceutische Rundschau. Berlin. 1-6, 1883-88.
- Pharmaceutisk tidende. See Ny Pharmaceutisk tidende.
- Pharmaceutisk tidskrift. Stockholm. 1-5, 1861-65.
- Pharmacia. Tallinn, Estonia. 1, 1921—
- Pharmacia portugueza. Oporto. 1-3, 1886-89.
- Pharmacie de Lyon. Lyons. 1-2, 1875-77.
- Pharmacie française. Paris. 1, 1897—
- Pharmacien. (Pharmaceutical Association of the Province of Quebec).
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HISTORY, ETHICS, AND LITERATURE OF PHARMACY

A Select Bibliography

GEORGE URDANG

In the Pharmaceutical Syllabus the subjects "History, Literature and Ethics of Pharmacy" are dealt with under the general heading quoted, not just as a unit but as a conglomerate kept together by some fundamental, although undefined relationship.

This administrative connection of the instruction in history, ethics and literature of pharmacy is in all probability due to two reasons:

1. The undeniable existence of a factual interdependence between the three subjects concerned making mutual reference a continuous necessity;

2. The understanding that neither of these subjects, history or ethics or literature of pharmacy, can be adequately conceived and interpreted with the means and methods of or even within one or the other of the basic sciences of pharmacy, but that each of these fields requires for its cultivation the knowledge of a variety of facts and viewpoints of a general nature, has its habitat in the humanities as well as in science.

History, ethics and literature of pharmacy are interdependent subjects. They are, however, not identical.

The development of pharmaceutical ethics as expressed in special professional and legal rules can be given a more detailed and coherent study in a special course than it would be possible within the general history of pharmacy instruction.

The task of a course in literature of pharmacy, finally, is of a practical rather than of a historical nature. It aims primarily at knowledge of actual pharmaceutical literature and at practice in the use of this literature, including the way in which books and articles are arranged and written, excerpts are made, terms are abbreviated, etc.

The following lists contain titles of texts, pamphlets, and other helpful sources of information concerning the subjects "history, ethics, and literature of pharmacy" and of some standard works on the history of other sciences and profes-

sions (medicine, chemistry, botany) and of science in general. It is understood that the lists represent merely a selection of material which the compiler thought of general importance or interest to the teacher and student of the history of pharmacy. Material on the history of American pharmacy and/or published in the United States of America has, naturally, been given precedence. As far as medicine, chemistry, botany and general science is concerned, publications in foreign languages have been listed only if they have a special meaning to pharmacy and/or have no equivalent in the English language.

Entirely omitted have been journal articles, although some of them may have found rather ample distribution in reprints. The many European publications concerning the history of individual pharmacies and the development of pharmacy in the one or the other city have likewise not been listed with the exception of those concerning some outstanding metropolis. Lists of such local histories may be found in the national pharmaceutical histories mentioned, *e. g.*, in Adlung-Urdang, *Grundriss der Geschichte der Deutschen Pharmazie*, in André-Pontier, *Histoire de la Pharmacie* and in Maurice Bouvet, *Histoire de la Pharmacie en France*.

It may be mentioned that biographical notes of pharmaceutical interest are not restricted to the "Bibliographikons" listed below. Tschirch's *Handbuch der Pharmakognosie*, second edition, I³ contains a comprehensive collection of biographical notes compiled by J. A. Haefliger and it is understood that such notes are to be found furthermore in almost every publication of importance on a pharmaceutico-historical subject.

Incomplete as they are, these lists cannot claim any importance of their own. Their value can be measured and determined only by the degree of assistance they may be able to offer to the student of the history of pharmacy.

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**MATERIA MEDICA, INCLUDING PHARMACOLOGY,
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Report of the Committee on Activities for Alumni

During the past few years this committee has dealt primarily with summarizing the refresher course situation of the member colleges.

At the beginning of this year the association president granted, at our request, permission to enlarge our scope.

We selected two main problems for consideration, as follows: (1) What plans should the colleges make for students returning after the war who withdrew during a school session, and (2) What plans should the colleges make for giving refresher courses to graduate registered pharmacists who have been in the armed forces.

We believe that the proper solution of these two problems is of vital importance to the colleges of pharmacy. We do not feel that hard and fast regulations concerning them can be made. However, we do think that general principles to be followed can be of help to most of the colleges.

Already some schools have made elaborate plans for these two post-war problems. In some cases the recommendations submitted by this committee are in entire disagreement with the proposals of individual schools. The differences of opinion concerning these problems is widespread. Each school will, of course, have its own modification of any generalized plan.

At the meeting of District No. 2 it was proposed that returning students be required to repeat the entire year they were in at the time of withdrawal from school. Unless, of course, the student withdrew at the very end of a year. It was also proposed that students with poor records be urged to repeat the courses which they had previously passed.

This committee appreciates the idealism suggested by these proposals and by ones similar to them which have probably been made at other meetings. We believe that they are too drastic. The Association should take a more realistic viewpoint. Therefore, we should like to recommend that:

1. The Association approve a policy permitting former students returning from the armed forces to renew their college training where they left off in so far as practical. A policy of this type for civilians has operated for years in most schools. This recommendation is presented primarily to emphasize the need of its continuation for servicemen.
2. The Association urge member colleges not to request students to repeat courses for which they have received credit.
3. The Association urge the member colleges to give short review courses if needed, concurrently with the regular courses. No passing requirements should be established for this work.

The question concerning refresher courses for graduate registered pharmacists returning from the armed services to civilian pharmaceutical activities resolves itself into an individual plan for each school. Some colleges are planning programs lasting for three or four months; others for six weeks, and still others for two or three weeks. We do not feel that this committee can make any recommendations concerning these courses. We assume that every school will make some type of refresher course available to this group. The committee believes that the work presented to these men should be given separately from that presented to civilian pharmacists who have been continuously in contact with pharmacy.

A third problem which arose out of the discussions concerning the first two was that of continuation of the accelerated program. This phase of the Association's plans is to be discussed in detail by another committee. Our group believes that acceleration has served its purpose, if any, and that continuance of such a program will do more harm than good.

We therefore recommend that the accelerated program be discontinued by each member school at the earliest possible date.

Thomas D. Rowe, Chairman

The Report of the Chairman of the Problems and Plans Committee

The Problems and Plans committee is not unmindful of its major unfinished task which was assigned to it before the world went to war, namely, the study of the problem of the deterioration of drugs and drug preparations. That study was nearing completion when it had to be suspended for reasons obvious to an intelligent audience.

An even greater and more important task was assigned to the committee as a result of Dean Kendig's presidential recommendation made at the Detroit meeting. This task was to work out a prepharmacy program to become effective at an appropriate and practicable time. As stated and discussed in the 1943 report of the committee it was evident from the beginning that the establishment of a prepharmacy year or years much more was involved than the prepharmacy curriculum. It would necessitate the revamping of the whole pharmacy curriculum as we now have it in the Fifth Edition (tentative) of the Syllabus. As a matter of fact, the establishment of prepharmacy courses will require less study than the adjustment of the curriculum on the professional level, because the pattern for preprofessional training in the health sciences has been pretty well set by medicine. It is possible that there are problems peculiar to pharmacy that will call for some modification of the established medical pattern, but whatever that modification proves to be we can rest assured that the central theme of prepharmacy education will have to do with the broadening and stressing of the basic sciences. In other words, the prepharmacy curriculum cannot be worked out independent of the professional curriculum. The two must be integrated. As I have said on previous occasions I have great respect for the Pharmaceutical Syllabus. I have

been in touch with it or active in participating in its construction since its incipency in the early years of the century. It represents the collective thoughts of the pharmaceutical educators and practitioners through the years. Even at this late date there is much confusion as to the objectives of the Syllabus. Some are even now exposing it to ridicule on the basis that it is impossible to cover everything included in certain courses in the Syllabus. Of course, it is impossible to do so. It was never intended that it should be done. The Syllabus was constructed with the idea in mind that it would constitute a series of guide posts for pharmaceutical educators and administrators to follow in teaching and in testing in the pharmaceutical sciences. In the meantime it has become a guide in formulating legislation and in enforcing standards. The Syllabus is to the pharmaceutical educator and administrator what a series of beacons is to the men who fly the pathways of the skies in the darkness of the night. The Syllabus attempts to point the way not only as to the content of the courses but also the minimum amount of time allotted to them. The sooner everyone gets this conception of the function of the Syllabus the lesser will be the adverse criticism brought against it. Dr. Ernest Little has recently called attention to the fact that there is danger in making any educational requirements so rigid that it will not permit experimentation and Dr. E. V. Lynn has called attention to the undesirability of reducing all chemical training to the same pattern. Both of these men are right. Such practices and procedures would block progress in education.

In building the Syllabus to date we have done a better job at collecting material than we have at organizing it and that is as it should be. Material cannot be organized before it is collected and it requires more time to organize than it does to collect. Furthermore, before we can organize, we must define, and that brings us to the immediate problem before the committee, which is an attempt to reveal what the material is and where it belongs, and by whom it should be taught. There is included in the Fifth Edition (tentative) of the Syllabus under the titles Advanced Pharmacy I, Pharmacy of Inorganic Substance (pages 29-35) and Advanced Pharmacy II, Pharmacy of Organic Substances (pages 36-51) certain subject matter. The subject matter is the most controversial of any in the whole pharmaceutical curriculum. Since my first con-

tact with pharmaceutical education I have heard the problem of the disposition of this subject matter argued pro and con by the chemists and the pharmacists usually with more prejudice than reason. I was inclined to say with more bigotry than good sense, but since my Calvinism has been mellowed by the passing of the years I chose the milder expression.

In this discussion one group of scholarly men go so far as to say that there is no such thing as the pharmacy of inorganic and of organic substances. They maintain there is no subject matter in these fields that does not belong to pharmaceutical chemistry. They go so far as to say there is no need of text books in these fields. They do not see how a text book could be written that would not be a pharmaceutical chemistry. They hold that if a student has been well trained in chemistry including pharmaceutical chemistry as outlined in the Syllabus that he is prepared for dispensing without any further training.

The other group of pharmaceutical educators, and they are just as scholarly, hold that there is a field that is not covered in the chemical training that is of the greatest importance in pharmacy. Neither is it stressed in pharmaceutical chemistry. This field includes the material designated in the Syllabus as Advanced Pharmacy I and II or the Pharmacy of Inorganic and of Organic Substances. They insist that it is necessary for the student to cover this material before he takes up the study of dispensing. They insist further that this subject matter deserves the dignity of a separate course where the instruction shall be given from the viewpoint of the practicing pharmacist rather than from the viewpoint of the pharmaceutical chemist. If this is true, teaching texts should be written covering this field—and specific courses should be included in the curriculum so the student will approach the study of dispensing properly prepared.

I thought I had a parallel in the biological field in the case of physiology, pharmacology, bioassay, therapeutics, and toxicology. These subjects in the broadest sense can all be considered as physiology. Pharmacology is a specialized physiology which deals with the physiology of those chemicals useful in the treatment of disease. Bioassay is a specialized physiology in which physiological technique is used to standardize

these chemicals. Therapeutics is the study of the use of these drugs in the treatment of an abnormal physiology and toxicology is the study of the action of these drugs when they are taken in such quantities as to cause symptoms of poisoning. Each field represents a special phase of physiology and each field is so distinct and so important that special texts are written and special courses are given in each field in our colleges and universities. There is no controversy as to where material belongs and in fact, some material is and should be duplicated in every course. When I drew this parallel in an attempt to convince one of my pharmaceutical chemical friends that this paralleled the condition in pharmacy he said I was right in the biological field but the application could not be made in the pharmaceutical field because there "is no such thing as the pharmacy of inorganic and organic substances." And so again we find ourselves running in circles.

If there is no such entity as the pharmacy of inorganic and of organic substances then we are wasting the student's time, the instructor's energy, and the taxpayer's money to retain such courses in the curriculum and the Syllabus content should be changed.

In view of the present confusion we can render pharmaceutical education a valuable service if we can more clearly define these fields and state more definitely what the content of our basic courses shall be.

The personnel of the Problems and Plans committee represents what might be called a fairly representative cross-section of the best-trained young men in American pharmacy. They are actively engaged in teaching and research, they are doing their own thinking and they view the problem intelligently and from different angles.

In order to crystallize their thought, the following questions were placed before them:

1. Is there such an entity as the pharmacy of inorganic and organic substances?
2. If there is, is this entity adequately treated in our courses in pharmaceutical chemistry?
3. If there is such a field but is wrongly named in the Syllabus, what should it be called?

4. Do you think that this material covered in Advanced Pharmacy I and II should be included in a course in dispensing?
5. If the material naturally belongs in a course in dispensing would the inclusion of it require an increased amount of time for that course?
6. Have you any other definite suggestions as to how the material under discussion could be handled?

The answers to these questions from the thirty members of the committee are given below mostly in their own language. Occasionally I have condensed for the sake of brevity, but in no instance has the meaning been altered. There is no significance in the order of the statements. For those who care to get the personal viewpoints of the members of the committee the perusing of these comments will prove both interesting and fascinating reading.

In my opinion there is no such entity as the pharmacy of inorganic and organic substances. This material seems to be covered in the outlines for Pharmaceutical Preparations, Inorganic and Pharmaceutical Inorganic Chemistry, Qualitative and Qualitative Pharmaceutical Chemistry, Organic and Organic Pharmaceutical Chemistry, and Dispensing. I believe that general inorganic and organic chemistry should be taught in the departments of inorganic and organic chemistry and that the pharmaceutical applications should be made by the department of pharmaceutical chemistry. In other words, there should not be a course in General Inorganic and Inorganic Pharmaceutical Chemistry, but two courses, one in General Inorganic and one in Inorganic Pharmaceutical Chemistry. If this were done, more emphasis could be placed upon the chemicals used in pharmacy and in medicine.

On page 24 of the Syllabus is this statement: "GENERAL CONSIDERATIONS. The didactic hours are devoted to a consideration of the official and non-official inorganic chemicals and preparations involving inorganic chemical reactions . . ." The official and non-official inorganic chemicals should be discussed in Inorganic Pharmaceutical Chemistry. Official preparations involving inorganic chemical reactions ought to have been covered in Pharmaceutical Preparations, although I see no mention of chemical reactions or equations in the outline of that course. If the preparation is a prescription, then it had best be considered in Dispensing.

KARL J. GOLDNER,
University of Tennessee

1 and 2—The present Syllabus courses in Inorganic and Organic Pharmaceutical Chemistry do not properly prepare the student for courses in Dispensing Pharmacy. The subject, The Pharmacy of Inorganic Substances is an entity which deserves a place in the pharmaceutical curriculum and which cannot be included with justice to the title in Inorganic and Organic Chemistry.

3—The material as outlined in the Syllabus is lacking in title character. The British have long used the title "Pharmaceutics" as applied to substances of biological or chemical sources, and in sense, meaning the preparation of materials in a convenient form for use as medicines and dealing with the preparations of medicines in a form suitable for administration or application. A title "Chemical Pharmaceutics" would certainly be appropriate.

4 and 5—Definitely no.

ARTHUR E. SCHWARTING,
University of Nebraska

I should say that there are such entities as the pharmacy of inorganic and organic substances just as there exist the chemistry of inorganic substances and the chemistry of organic substances. On the other hand, I see no need for treating the material outlined under Advanced Pharmacy I and II as separate courses. All of this material can and should be given in the courses in inorganic and organic chemistry, pharmaceutical chemistry, pharmaceutical preparations and dispensing pharmacy; to cover this subject matter as outlined in the proposed syllabus appears to be a needless duplication of effort. For example, under "Ammonia and Ammonia Compounds" on page 26 of the Syllabus, Fifth Edition (tentative), the manufacture of ammonia and a study of its chemical properties logically belong in courses in inorganic and or pharmaceutical chemistry; the manufacture of the petroxolins, aromatic spirit of ammonia and ammonia liniment belong to the course in pharmaceutical preparations; the admixture of these products with other substances and their incompatibilities should be studied in dispensing pharmacy.

Should your survey indicate a definite need for these courses, The Pharmacy of Inorganic Substances and The Pharmacy of Organic Substances, I then recommend that the names Advanced Pharmacy I and II be dropped, because the material outlined under these headings is fundamental rather than advanced. Furthermore, I believe that therapeutic uses should be included along with the study of pharmaceutical uses. It is true that the inclusion of therapeutic uses in these courses will be a repetition of work covered in the courses in pharmacology and therapeutics but it is no more of an infringement than we are committing in the fields of chemistry, pharmaceutical preparations and dispensing pharmacy. It is also true that, in a course in pharmacy, pharmaceutical uses should be emphasized but, if this is done and no mention is

made of therapeutic uses, the student may get a distorted view of the picture. My reason for stating that therapeutic uses should be included can be given best by use of an example. According to the tentative outlines, the teacher, when discussing light and heavy liquid petrolatum, should inform his students that light liquid petrolatum is employed pharmaceutically as a vehicle for oil sprays, that heavy liquid petrolatum is used pharmaceutically as a levigating agent for yellow mercuric oxide and other substances in the preparation of ointments but, according to the present outline, the teacher should not mention that the heavy oil is extensively employed therapeutically as an intestinal lubricant.

My opinions, no doubt, are influenced strongly by the fact that we at Maryland do not give courses that correspond, even remotely, to the controversial Advanced Pharmacy I and II.

W. ARTHUR PURDUM,
University of Maryland

First, there is such an entity as a pharmaceutical inorganic and organic substances, at least in my opinion. I am not certain but it seems to me that the present designation in the Syllabus relative to these divisions came about somewhat as follows: Courses in the inorganic and organic fields were being conducted under the title of Pharmaceutical Chemistry. However, it was recognized that the chemistry of the materials treated was no different than that encountered in regular courses in the inorganic and organic fields. On the other hand, much additional information was being imparted to the student by way of explanation of solubility effects on action, therapeutic action of the materials discussed, their toxicities, and safe dosage. This, it appears to me is not the chemistry of pharmaceuticals as the course title would imply, but is rather the pharmacy of chemicals. It is from that standpoint that most such courses were and are being taught. As a matter of fact, I am not quite convinced that there is any such thing as pharmaceutical chemistry or that such a field can be differentiated from industrial, analytical or other fields in the regular chemistry construction.

Granted that there is such an entity as the pharmacy of chemicals, it is my opinion that the subject is adequately treated either in a course in pharmaceutical chemistry or in a course in advanced pharmacy since it appears to me that the subject matter covered is approximately the same regardless of the title attached to the course. As you undoubtedly know, some schools list their general courses in inorganic and organic chemistry under a combined title including pharmaceutical chemistry as a portion of the course name. On the premise that there is no difference between pharmaceutical and any other chemistry, it would appear that such designation of course is entirely justified. However, such a course can not be complete unless followed by a specialized course dealing with the pharmacy of the chemicals that were produced according to the rules, regulation and laws of general chemistry.

It is my opinion that the present name as applied to these courses in the Syllabus is entirely correct since they are basic courses in pharmacy. The only other heading under which they might be placed would be that of *materia medica*, which of course is the major portion of the study of pharmacy.

Relative to the course in dispensing, and from the standpoint of one who has taught the course for a number of years, I would say that the material covered in Advanced Pharmacy I and II must be included in Dispensing. So too must the subject matter of practically all other courses taken in the pharmacy curriculum. It is my belief that the course in Dispensing serves as the focus for the preparatory courses and that its principal reason for existence is to permit the assembling of various bit of isolated information imparted to the student in several preliminary courses and the correlation and application of this information to the practical problem at hand. Thus, Dispensing is basically a review course. The substitution of the course in Dispensing for any one or more of the preliminary pharmacy courses is not in my opinion to be condoned. I make this statement on the ground that there is not sufficient time granted to the course in Dispensing to permit the necessary detailed study of various pharmaceutical materials and at the same time to point out the various and sundry practical applications of theory encountered during such a detailed study.

If, however, such material as is now included in the several pharmacy courses were to be included in a course in Dispensing, it seems to me that such course would of necessity be divided over a period of approximately 2 years, the first of which would be devoted entirely to acquiring an understanding of those materials that are to be dispensed. This being the case, the ultimate curriculum would be approximately the same as at present, the only difference being that courses now labeled Advanced Pharmacy or Pharmaceutical Preparations would be known as Dispensing under the new revision.

I have no suggestions other than those included above relative to the handling of the subject matter included in the courses in Advanced Pharmacy. Certainly it is essential that the pharmacy of chemical materials be considered during a course in pharmacy. It is equally essential that the pharmacy of botanicals be considered in much the same manner. Thus, any change that might be proposed relative to the amount of time or emphasis being placed upon the chemical therapeutic agents might also be applied to the materials and substances of botanical origin. This, it would appear would again be simply changing names or designations used to specify certain portions of our study since it does not seem that the subject matter itself could be entirely disregarded in our college courses.

GEORGE E. CROSSEN,
Drake University

Truly the questions involved are ones which should be settled as soon as possible. We need so very much to have the titles and contents of our pharmacy courses more explicitly defined and adhered to so that there will be unity in the curricula of the various pharmacy schools. At the present time the problem of transferring student credits from one institution to another is extremely difficult. One cannot tell what a colleague in another institution is teaching unless he has a full description of the course. Names mean nothing. But to get to the questions you have at the bottom of page 2 in your letter:

1. I believe there is such an entity as the Pharmacy of Inorganic and Organic substances.
2. I cannot give a direct answer to this question. Our courses in pharmaceutical chemistry, as I know them, are so varied in complexion that they may nor may not treat the subject. In your letter you cite the textbook by Dean Rogers as covering the field in general chemistry and inorganic pharmaceutical chemistry (at least that is my interpretation of your remark). I have used this text in my teaching. I used it as a textbook as an under-graduate student at the University of Minnesota and had the course using this text under Dean Rogers himself. It is my opinion that neither the text nor the course, as Dean Rogers taught it to me, covers the material outlined on pages 154-158 in the Syllabus. I believe, rather, that it applied to the material outlined under Advanced Pharmacy I. I hope Dean Rogers would not contradict this. It seems to me that the problem hinges around the fact that some schools of pharmacy have general chemistry taught by pharmacy instructors and thus are able to bring in the needed emphasis from the pharmaceutical standpoint on the material surveyed.

My experience is the same in the field of organic pharmaceutical chemistry. To cover that field you mentioned the textbook by Dean Jenkins and Dr. Hartung. Again it happened that I had Dean Jenkins as a teacher when I was an under-graduate student. I took a course from him which covered the material now in the textbook, but I cannot see how it may be said that such material covers the contents of the course outlined as "Organic Chemistry" and "Organic Pharmaceutical Chemistry" in the Syllabus.

I wonder then if the label "Inorganic Pharmaceutical Chemistry" as defined by the Syllabus is not a cloak to ward off criticism from chemistry departments? Certainly in institutions where chemistry is taught by chemists it is necessary to have a course such as that labeled "Advanced Pharmacy I" in the Syllabus. Call it what you may "Pharmacy of Inorganic Substances," "Inorganic Pharmaceutical Chemistry," or Inorganic *Materia Medica*."

3. I have no criticism for the name given in the Syllabus to this field. The main thing is to get the unanimous adoption of one

title so that when it is used we will all know what we are talking about.

4. I think that the material covered in advanced Pharmacy I and II should not be included in dispensing courses. This subject matter should be taught before the student begins the work in dispensing.
5. In view of how I answered 4, this required no remarks.
6. I do not have any definite suggestions that would contribute something new to the solution of the problem. Again, it seems to me that much of the difficulty would be solved if all pharmacy schools treated inorganic and organic chemistry as separate fundamental courses to be used only as necessary backgrounds for specialized pharmacy courses. If they continue to be used by some as vehicles for instruction in pharmacy, there is no easy solution to the problem. So much for the problem you outlined in your letter.

Let me bring up one other thing in regard to pharmaceutical education and the curriculum. I have often wondered if the various members of the Syllabus Committee have not been so enthusiastic about their own specialized fields that they have forgotten the important consideration of making a college graduate a well rounded personality. This is as important in pharmacy as it is in any other field. Retail pharmacists play a very significant role in the social, political, and economic lives of communities in which they are situated. In my study of the Syllabus, the thought has come to me that we seem to be striving to make our students experts and specialists in the various fields of pharmacy, but neglecting those things which are important for a full and well-rounded personality.

I will not quarrel with the idea that a pharmacist must be well trained in his specialized field, but I am adverse to crowding our curriculum with technical subjects so that the humanities and social sciences are virtually excluded. Some may believe that a five year pharmacy course will solve that problem. However, I am afraid that most pharmacy teachers will look upon the additional year as time to be used to give the students more in their special fields. I think the answer there lies in better teaching, rather than more teaching. I hope that I have been of some help to you in finding an answer to the problem you are attacking.

ALLEN I. WHITE,
State College of Washington

The basic source of trouble in the Syllabus is the attempt to be "all things to all men." There is too much overlapping of courses, i. e., the headings "Dental Pharmacy" and "Hospital Pharmacy" thrown in at the end of "Dispensing Pharmacy," p. 65. Both headings repre-

sent complete, optional courses. Some kind of an integration and correlation is missing.

There is frequently a confusion of objectives. In "Dispensing Pharmacy," p. 58, the first objective is stated "To present to the student the fundamental principles of prescription compounding by means of a detailed study of each class of pharmaceutical preparations both in the classroom and in the laboratory." A detailed study of each class of pharmaceutical preparations should have taken place in "Pharmaceutical Preparations." This is indicated in the outline of Dispensing by the absence of such titles as Waters, Syrups, Elixirs and Tinctures. Then why is the first objective stated?

The course titles "General Chemistry and Inorganic Pharmaceutical Chemistry," "Organic Chemistry and Organic Pharmaceutical Chemistry," and "General and Pharmaceutical Botany" are not only unwieldy but also arouse an unhealthy suspicion of subterfuge. Such compound titles have extremely little meaning for the schools of pharmacy at universities where the standard course in each is taught in the respective departments outside of the school of pharmacy. To illustrate with one example, the first title leaves a useful course which might be based on Roger's Inorganic Pharmaceutical Chemistry without consideration.

The above discussion will, perhaps, explain my attitude in the following consideration of Advanced Pharmacy I and II. The only trouble with these courses is the lack of a definitive name. The content is *materia medica*; why not call them *materia medica*?

General and medical dictionaries and I agree that the information of these courses as outlined under "General Considerations" pp. 24 and 36, can be covered specifically by the term *materia medica*. The only omission is *posology*, and it must be an oversight.

These courses are in sympathy with what I consider the most important sentence in Kremers and Urdang's "History of Pharmacy": "The fact that *the pharmacist is the trustee of the entire medicinal needs of the people*, responsible for having the remedies desired by them in stock and in good condition and also for the reliable preparation and preservation of all remedies, old as well as new, official and non-official, makes the profession an indispensable part of public-health service." (p. 43.)

There is practically no conflict between this course and pharmacology, which is frequently (usually) another misnamed course. Pharmacology, as usually taught and written, is better designated as pharmacodynamics. Our students need pharmacology for an understanding of the action of drugs. This information is used in the broader course, *materia medica*.

There is need of the content of Advanced Pharmacy I and II. It is the great summarizing and integrating which logically lies between the preliminary courses, botany, pharmacognosy, the chemistries, and pharmaceutical preparations, and the final application, dispensing. It is the

course in which a student learns useful information ranging from the preparation of a flaxseed poultice to the renal function test.

There are texts which more or less cover this field. There is a need for texts which specifically cover this field for pharmacy students.

I believe there is no need to separate the "advanced pharmacy" of inorganic substances from the "advanced pharmacy" of those which are organic. As a matter of fact, botanical and animal substances also should be included. There can be so much effort spent in separating the tweedledees from the tweedledums that there is no energy left for more profitable information.

I understand that there is considerable opposition to the term *materia medica*. Solmann terms it obsolescent. I am not concerned with such academic quibbling. As a substitute, I might suggest "*materia Pharmaceutica*." However, the objection might be raised that this term could include a ham sandwich.

On the basis of the above, I would answer your specific questions as follows:

1. Yes.
2. No.
3. *Materia medica*.
4. No.
5. Yes.
6. See above.

EDWARD A. BRECHT,
University of North Carolina

Your letter of July 11, to the Problems and Plans committee, was interesting and startling. To a young man in pharmaceutical education the thing that surprises me continually is to find problems in pharmacy of an obvious and fundamental nature in the year 1944. Pharmacy education of a college level has been going on for some years and yet our committee is faced with deciding what is a field of study and what is not a field of study.

To question 1 the answer is "No" but with reservations. In question 2 the answer seems to be "Yes" although according to the Syllabus the subject matter is not covered by courses in pharmaceutical chemistry. I would say in reference to question 3 that in the Syllabus it is wrongly named. Let me answer question 6 at this time, too. Advanced Pharmacy I should be called Pharmaceutical Inorganic Chemistry and the course designated by the Syllabus as General Chemistry and Inorganic Pharmaceutical Chemistry changed to "General Chemistry." Advanced Pharmacy II should be called Pharmaceutical Organic Chemistry and Organic Pharmaceutical Chemistry changed to "Organic Chemistry." Textbooks already exist for all of these fields of study.

My answer to question 4 is definitely "no" because such material is necessary before *real* dispensing is possible.

CHARLES O. WILSON,
University of Minnesota

There are not now answers available to your questions posed to the Committee on Problems and Plans. At present all you can get are the divergent points of view. They will be too widely spread to give any one of them the majority necessary to say "this is the real or genuine answer." Before you can get answers there must be a meeting of the minds on the meaning of the things about which you are trying to get the answers. During all the years I've been attending our meetings and participating in the work of the Syllabus committee I have never run into anything like unanimity where the meaning of pharmaceutical terms are concerned. Our committee reports might say "It is the unanimous concensus," but always that is because of a gentlemen's agreement to stop the controversy in order to formulate a report that will show progress. Let's see if that isn't what will happen in the attempt to answer your questions, which incidentally, are good ones and heavily pertinent.

1. Is there such an entity as the pharmacy of inorganic and organic substances? It strikes me that if a thing is used in pharmacy the information necessary to show how it is used is pharmacy. So the answer is YES.
2. It is my feeling that they are not adequate, but that with some extension they could be made adequate. The teacher who specializes in chemistry generally is neither qualified nor has the interest to make the proper extension. If a real pharmacist (one who has had some experience outside the college) taught the courses, a combination would be practical. But the man who, (although he may have graduated from a college of pharmacy) specializes in chemistry hasn't the understanding of our needs to do a creditable job.
3. No answer.
4. It would be better combined with dispensing than with chemistry because it would get more effective treatment by the professor of dispensing.
5. Its inclusion would increase the time devoted to dispensing.
6. I would like to have it in dispensing. As outlined in the Syllabus the course is monotonous to both the instructor and the student. Its basic pattern is too repetitious to sustain interest. It becomes a memory treadmill of nomenclature to uses, back and forth, the cycle being repeated as many times as there are substances to study. This monotony could be broken in the dispensing course.

Now I would like to ask you a question—What is Pharmacy? If we could all agree on what pharmacy is we could better settle on what the content of courses labelled “pharmacy of inorganic or organic substances” should be. As you know I am, at the moment, inclined to the belief that pharmacy could properly be considered a part of medicine. This conclusion being based on the fact that medicine is the science of healing and that it is composed of various interlocking specialties. Pharmacy is one of these specialties. It is the one treating with the preparation and use of the medicines available to the other specialties of medicine. It is one of my favorite contentions that if we would recognize pharmacy as one of the spokes in the wheel of medicine our self esteem would so grow in stature that we would throw out all the activities which tend to prove otherwise. I say that with full recognition of all the swirls and back eddies of pressure that will tend to keep us the merchants we now are.

But to get back to the definition of pharmacy. If we consider it to be the study of the preparations and uses of the available medicines, how far shall we go in our teachings concerning them? We might reason that most of the preparation is done by the manufacturer and there is where a knowledge of Chemistry is most valuable. Since we are training students mostly to become retailers we might with profit restrict the chemistry portion of our curricula. I can just hear the chemists howl at the thought of that. But really you can rationalize a good case of cutting down on chemistry, and sometimes I do it just for the sake of argument, because my chemist friends are so energetic in seeking more and more time in which to teach their subjects. It seems to be that generally they are more successful in their quest than are the professors of pharmacy when they try to enlarge the scope of their academic activities. Perhaps it is because they have more to offer. If that is so then there is less need for colleges of pharmacy than some of us like to believe. If pharmacy is largely a matter of applied chemistry then a few service courses in pharmacy added to any good chemistry department are all that is needed.

The pharmacologist wants more and more of the pharmacy curriculum, too. And I can see good reasons why he should have it, and also why the bacteriologist and the physiologist should have their shares enlarged. But unless the pharmacist is to be completely submerged under all this new academic foliage from the other departments he has got to grow too. And that brings us to another question. What has he got that is pure pharmacy and is not now being taught to offer as his share in the expanding curriculum? I'd give a lot for a good answer to that question. I think it has got to be answered in a substantial way if pharmacy is to maintain itself as a respected worthwhile academic entity.

L. WAIT RISING,
University of Washington

Following are my answers to the questions in your communication of July 11, 1944. We found it necessary to consider virtually the same questions last summer when we set about revising our curriculum so the answers are essentially those which we gave ourselves at that time after long hours of thought and talk.

1. Is there such an entity as the pharmacy of inorganic and organic substances?

Yes, I believe there is such an entity.

2. If there is, is this entity adequately treated in our courses in pharmaceutical chemistry?

No, not under the structure of the Syllabus. This is especially true where the beginning courses in inorganic and organic chemistry are not taught from the pharmaceutical viewpoint, *i. e.*, where existing courses in university and college chemistry departments are utilized. Conceivably, some of this material might be included in the course in pharmaceutical preparations but it would seem that that course is already full of material. Furthermore, the Syllabus states "the systematic study of the chemical preparations are (sic) included in other outlines"—doubtless referring to Advanced Pharmacy I and II.

3. If there is such a field but is wrongly named in the Syllabus, what should it be called?

We have called it "Pharmaceutical Chemistry" because that fitted in better with the general picture of our curriculum. However, we have no serious argument against the present title of the Syllabus.

4. Do you think that this material covered in Advanced Pharmacy I and II should be included in a course in dispensing?

I do not think so. This material is fundamental and preparative to dispensing and should precede the latter.

5. If the material naturally belongs in a course in dispensing would the inclusion of it require an increased amount of time for that course?

I should certainly think it would. Courses in dispensing do not now have any too much time allotted to them.

6. Have you any other definite suggestions as to how the material under discussion could be handled?

None. I believe it to be in many respects a matter of fitting the material into the curriculum with due regard to the other courses.

ELMON L. CATALINE,
University of Michigan

1. Is there such an entity as the pharmacy of inorganic and organic substances? Yes. However we cover this material in our courses in inorganic and organic pharmaceutical chemistry. Our courses in general inorganic chemistry and organic are given by the chemistry department.
2. If there is, is this entity adequately treated in our course in Pharmaceutical chemistry? Not as outlined in the new Syllabus.
3. If there is such a field but is wrongly named in the Syllabus what should it be called? I don't know particularly since the term *materia medica* seems to have been outlawed.
4. Do you think that this material covered in Advanced Pharmacy I and II should be included in a course in dispensing? No.
6. It seems to me that there are three essentials that are required for an adequate knowledge of chemical *materia medica*. First a basic knowledge of inorganic and organic chemistry. Second the chemistry of the specific substances both inorganic and organic which are used in medicine and pharmacy. This includes such extremes as their nomenclature, physical properties, uses, and posology. It is my opinion that while an attempt has been made, nevertheless the second cannot be adequately treated according to the present Syllabus. The second and third phases are covered in our courses which we call pharmaceutical chemistry even if it might be considered by some as a misnomer. However we try to give our students this knowledge regardless of the name of the course. I don't think that you can give a course in inorganic chemistry and general organic chemistry and adequately cover the inorganic and organic substances in the United States Pharmacopœia and National Formulary too.

GEORGE W. HARGREAVES,

Alabama Polytechnic Institute

The following are our combined opinions relative to answering your questions:

(1) We feel that inorganic pharmacy and organic pharmacy are definite entities. If the courses in inorganic and organic chemistry are properly taught they must, within the limited time assigned them, restrict themselves to pure chemistry. In this way they must necessarily omit those chemical substances and operations peculiar to pharmacy, then when the student begins dispensing he finds himself handicapped by unfamiliarity with important inorganic (or organic) pharmaceuticals and processes.

(2) The outline of inorganic pharmacy on pages 24-35 of the Syllabus illustrates very nicely the points which we have in mind. We

feel it is a waste of time to have students prepare diluted hydrochloric, sulfuric, nitric and phosphoric acids in the laboratory. They are thoroughly familiar with these acids from their courses in chemistry. However, they should make aromatic sulfuric, dilute hydriodic and hypophosphorous acids since they will not have encountered these substances in the laboratory work of a course in general chemistry. Similarly, they will have lacked an opportunity to familiarize themselves with petroxylons, syrups, solutions, and other galenicals based on inorganic constituents.

(3) We hesitate to select a designation for this course to be used in the Syllabus. We have used the terms "inorganic pharmacy" and "organic pharmacy" to cover this work intermediate between chemistry and dispensing.

(4, 5 and 6) Certainly there have been important changes in the science of pharmacy with the development of the fields of vitamins, sulfa drugs, penicillin and similar compounds and extension of our knowledge of sera and vaccines. These advances should be reflected in our curriculum, even though it may mean the elimination of some instruction on natural drugs. In our opinion it is debatable whether this material should be taught as pharmaceutical chemistry, pharmacology or dispensing. The chemistries are essential for an understanding of

the physical and chemical properties of drugs, pharmacology is the basis of therapeutics, and bacteriology is necessary for an understanding of the vital fields of sanitation and biologics. Also the student learns an appreciation of accuracy in quantitative analysis, which is invaluable at the prescription counter. It is vital to remember that we are training *pharmacists*. When these related fields give the information needed by the pharmacist, they have completed their assignment. Additional work in these fields should then possibly be reserved for specialization.

If the material in question were put in dispensing it would mean increasing the amount of time for that course. This I feel would be a healthy thing for pharmacy.

ERNST T. STUHR,
Oregon State College

I have your letter relative to the questions set before the Committee on Problems and Plans, and have prepared the following answers:

1. Yes, there is such an entity as the pharmacy of inorganic and organic substances.

2. No, this entity is not adequately treated in our courses in pharmaceutical chemistry. Some schools offer chemistry to pharmacy students in the same classes with chemistry majors and chemical engineers. Naturally, the teachers of these courses are not pharmacists and have no thought of instructing in the pharmacy of inorganic and

organic substances. Consequently, the students miss out on this particular branch of pharmacy unless it happens to be given elsewhere. (I am not criticizing this type of chemical instruction for pharmacy students, because I have always felt that as far as chemistry is concerned this is as good a course in chemistry as can be obtained.) On the other hand, teachers of pharmaceutical chemistry have good intentions and perhaps do touch lightly on the pharmacy of inorganic and organic substances, but they have other objectives in mind and cannot spend much time in teaching other than pure chemistry. The pharmaceutical chemist thinks in terms of the chemist. He is seldom a man who has had had much practical drug store experience, and if he has worked in a store his experience is not recent. Through the very fact that he teaches chemistry he is not sympathetic with the problems of the pharmacist. It seems to me that someone in the practical pharmacy field,—one who applies his knowledge of chemistry to prescriptions, incompatibilities, methods and means of compounding prescriptions—is better fitted to teach the pharmacy of inorganic and organic substances.

3. I feel that the course is improperly named. I do not like the numerals, I and II attached to them. Some schools teach this subject matter in Official Pharmacy, but that title does not include the non-official drugs. I have no good name to offer. Perhaps it could be called "Inorganic Medicinal Chemicals" and "Organic Medicinal Chemicals."

4. No, I do not feel that this subject matter should be included in Dispensing Pharmacy. Numerous attempts have been made to include the material in Dispensing Pharmacy, but I am always reminded of statements by various individuals to the effect that one cannot do a good job of teaching if he includes a smattering of several other subjects. It seems that too many subjects are now thrown into Dispensing Pharmacy, such as Pharmaceutical Calculations, Latin, Insecticides, and Rodenticides. I think we ought to teach in a course what it is labeled.

5. If the material were placed in Dispensing Pharmacy, more time would have to be allowed for the course.

6. Possibly our courses in Official Pharmacy and New and Non-official Remedies might be combined to take over this material.

ELMER M. PLEIN,
University of Washington

In answer to your inquiry, permit me to say that I do not qualify as an expert on the questions which you raise. At first I was inclined to say just that and then stop, but I am interested in the pharmacy curriculum, and would like to supply an analysis as an interested non-specialist in the field.

First of all I think that the Syllabus is cluttered with too many "required" subjects, especially in the third and fourth years. At a glance it would appear that everyone who had anything to do with the

committee thought that their subject should be required. It should be equally apparent to a thinking person that conditions vary so greatly even between schools of high standards that what might well be a necessary course in one would be covered in other courses in a second school. I think that the question of "Pharmacy of Inorganic and Organic Substances" falls into this classification. Therefore it should be included in the Syllabus as an optional subject, to serve as an outline either for, a) those schools whose faculty feels their curriculum will be improved by its inclusion or, b) for the purpose of permitting its offering to students whose particular interest is dispensing. Perhaps it should be required of students who plan to do graduate work in the field of pharmacy. Certainly I would not consider it a prerequisite for a graduate student in pharmacology!

You are no doubt familiar with Dean Newton's address last year ((A. J. Ph. E. VII, No. 4, page 444) in which he says that a curriculum should permit students to substitute special advanced courses.—How can this be correlated with his chairmanship of the committee which would require Advanced Pharmacy I and II?

In a similar circumstance you may be interested in knowing that on the program this year I plan to ask the Conference of Teachers of Pharmacognosy and Pharmacology to go on record as opposed to a laboratory requirement in bioassay. This is not because I think bioassay is unimportant. On the contrary I think that it is very important, but I do not want it kicked around as a three credit hour course *required* of every student. I would rather give the principles of bioassay in the pharmacology course, which should be required, than give a first rate bioassay course to the students who want it enough to devote the necessary time to it. In the meantime I will not worry about Dean Newton's run-of-the-mill student because he has never killed the required number of cats with digitalis, or determined the blood sugar level of eighteen rabbits two successive weeks. He will still know the principles involved and will be a good pharmacist. Doesn't that answer a lot of the questions which you raise? I cannot specifically answer the questions, as I am sure no one can without having taught one or more of the subjects involved.

Consideration of a prepharmacy program makes it more important than ever that the Syllabus requirements be loosened up to permit maximum usage of the talents, facilities and experience at the disposal of each school. I would visualize a five year program as being weighted approximately one year cultural, two years required scientific and professional, two years optional scientific and professional. Maybe I like that because I do not agree with the band wagon music that the major objective of the pharmacy school should be to provide pharmacists for the retail store. In a cold blooded way I feel that the school should streamline its product for the retail outlet, the hospital pharmacy, the pharmaceutical manufacturer or the government agency. Since our product is after all human they have a right to expect the school to give them this necessary specialization, or, in the good old democratic way, to go to a school which will train them. If the retail pharmacy is

going to get the product it will have to compete economically and professionally with the other bidders. (You would probably be disappointed if I hadn't had my say on that.)

LLOYD W. HAZELTON,

George Washington University

Before making specific replies to your questions, let me give you a brief picture of what is done at this college of pharmacy. In the first place, our students take the same fundamental courses in chemistry as do other students in the university. That is, inorganic chemistry, qualitative and quantitative analysis, and organic chemistry are no different for pharmacy students than they are for students in engineering, pre-medics, and arts and sciences. This, I believe, is the way it should be. Not only do the students get a broader view-point in chemistry, but they are on a more equitable basis with their fellow students. I believe that pharmacy has had too much segregation of students in the past. The result has not been to elevate the pharmacy students in the minds of the other students, but to cause the other students to discriminate against them. In fact, the discrimination has been demonstrated by certain graduate, medical and other schools. I mention this because the suggestion has been made that every college of pharmacy should have its own department of chemistry, yet it seems to have worked out well here with the department of chemistry as a separate and distinct department of the university.

On the other hand, there certainly is a field of study which might be called advanced pharmacy (or whatever) which deals specifically with the chemical aspects of pharmaceutical substances and preparations. This portion of the curriculum is taught at this college under the title of Official Pharmacy. The analysis of drugs and preparations is taught in the department of chemistry under the title Drug Analysis.

I believe that our system has some merit, since the students get a good background of fundamental chemistry taught in the department of chemistry by professors who are specialists in their particular fields of chemistry; and, at the same time, the pharmaceutical aspects of chemistry (or the chemical aspects of pharmacy) are taught in the college of pharmacy.

My point is that there are two different approaches to the chemistry of pharmaceutical substances—the general chemical approach and the pharmaceutical approach. Both should be presented, but the pharmaceutical chemistry should never replace the fundamental courses if it becomes necessary to make a choice.

And now to the questions

1. There definitely is such an entity as the pharmacy of inorganic and organic substances. This should be supplemental to the courses in inorganic and organic chemistry and should not replace them.

2 and 3. At this university the material is treated under the title Official Pharmacy. It would seem that the designation Pharmaceutical Chemistry could be used equally well; however, chemistry departments are prone to look askance upon courses bearing such designation if they are offered for a prerequisite to graduate work. (Some may say that we are not training students for graduate work, and I admit that it should not be our primary object; however, we should be aware of the devaluation others are going to place upon our students.) I am somewhat of the same opinion as the man who says that chemistry is chemistry and pharmacy is pharmacy.

4. This material should not be included in the course in dispensing pharmacy. It is true that much consideration must be given to chemical principles when teaching incompatibilities, but there is not sufficient time in dispensing pharmacy to give a thorough discussion of the chemistry of pharmaceuticals.

6. The only suggestion I have in regard to handling the material would be to handle it as we do in the college under the titles Official Pharmacy and Synthetic Drug Products. We have one term of Official Pharmacy in which the official inorganic substances are studied and a course entitled Synthetic Drug Products which deals with official organic substances of a synthetic nature. This plan seems to work very well when it is coupled (as it is here) with a complete course in each of the fundamental fields of chemistry.

JOSEPH B. SPROWLS,
University of Colorado

I shall attempt to answer some of the questions that you asked in your letter. Most of the questions have been asked of me by my own dean and by others in the teaching field, so I have thought about them a great deal. We are particularly interested in them here at Ohio State because we have reorganized our curriculum and are in the process of making more changes. Our course in dispensing pharmacy has been completely overhauled and in teaching this course, I find that the background of the student is extremely important.

Pharmacy is a difficult vocation to define or describe in a few words. It is said to be a profession, a business, a science and an art. As we look about us we can see each of these entities being promoted with emphasis being placed on one or more of them at one time. However, each one is sufficiently important to make it necessary that the student receive the kind of training that will aid him in fitting into the general scheme of things.

To my mind the dispensing courses are the peak of all of our educational plans and, as such, require substantial and adequate bases. Organic chemistry and inorganic chemistry are two of these bases and

a general course in each must be given. These courses, however, must be followed with courses dealing with the facts that are of practical importance to the pharmacist, not to the industrialist or analytical chemist. These courses should be described as pharmaceutical chemistry with as much justification as the physiologist calls his special interest in chemistry physiological chemistry. I believe there is such an entity as the Pharmacy of Organic and Inorganic Chemistry. I wonder if the chief cause of this controversy is not the fact that our pharmaceutical chemists do not have the pharmaceutical viewpoint?

There are too many important facts concerning the chemical compounds to incorporate this material into the dispensing course, but the real reason why this should not be is that a good course in dispensing pharmacy is built on the foundation of chemistry. I shall have more to say about this in a paper to be presented at the convention.

I am satisfied with the titles of the courses as stated in the Syllabus. The outlines are complete; the only thing lacking is a discussion as to the viewpoint the instructor should have.

I have refrained from answering your questions directly because I wanted you to get my general feeling toward this subject. We have a big job ahead of us and some definite conclusions must be reached soon if we are going to put our educational house in order. It seems to me that pharmaceutical education is a long way behind the industry.

EARL P. GUTH,
Ohio State University

In reply to your letter requesting answers to some questions set forth therein, I believe that there is such an entity as the pharmacy of inorganic and organic substances. This material is not, should not, and could not be adequately treated in courses in pharmaceutical chemistry. Chemistry is one thing, a science, and pharmacy is another in which art is involved as well as science, although the two meet on a common ground. I do believe, however, that there is no need to teach this material in separate courses. In my opinion, it is part of both pharmaceutical preparations and dispensing, and I doubt that any increased amount of time would be necessary to include it in these courses. Much of the material is already being taught in the present courses in pharmacy. There are always those who want to make new courses when present ones are fulfilling the purpose or may be modified to do so.

You mention in your letter the thought of how we can do a better job of teaching in our undergraduate colleges. You and I are on the Committees of Problems and Plans and on Post War Planning. Both of these have the objective of bettering pharmaceutical education. Toward this end I think the matter of overloading members of faculties with routine teaching hours and a variety of courses or subjects ought to be considered.

During a period of emergency, such as exists at present, one must expect to endure inconveniences, even make sacrifices, but I understand that overloading is a normal peace time practice.

Good teaching is something that requires experience and a great deal of effort to master. I doubt that many appreciate this fact. In a college, a professor should be allowed a free hand to explore his field and investigate, and he cannot do this when continually bound to routine and thrown from one course to another as a matter of convenience.

What I have outlined here is either right or wrong; it has some importance or is of no consequence. If it is a minor thing, we may let it pass, but if it is something that affects the welfare of our colleges, we ought to give it some consideration.

LESLIE B. BARRETT,
University of Connecticut

I think you know pretty well how I feel about this question of pharmacy of organic and inorganic compounds. So without too much elaboration, I'm presenting my views on the questions you asked.

1. Definitely there is an entity of pharmacy of inorganic and organic substances. It may include some chemistry but not the type that can be given in regular chemistry courses. For example: Sulfurated Potassa is official. It might be mentioned in general chemistry, but the important points concerning its use in pharmacy would not be taken up. No chemistry course should discuss such things as its color and why it must be liver colored to be used; the means of preserving it and why; how it is made into a solution and why it must be filtered. All of these items are of importance primarily to the pharmacist. Numerous other inorganic chemicals have similar pharmaceutical aspects that should be discussed in the Pharmacy of Inorganic Substances. The organic substances present even more points involving pharmacy.

2. No. Furthermore, this material should not be given in regular chemistry courses.

3. The titles "Advanced Pharmacy I" and "Advanced Pharmacy II" mean very little. I think these two names should be dropped and the descriptive names as now given in the Syllabus should be used.

4. No.

5. See No. 4.

6. I think teaching these courses separately, with emphasis on the pharmacy of the compounds, is the most suitable way to present these subjects.

It seems to me that the situation might be clarified a little if the titles of the chemistry courses were changed. Thus "General Chemis-

try and Inorganic Pharmaceutical Chemistry" is the title given in the Syllabus. Yet the outline for the course is for General Chemistry and Pharmaceutical Chemistry. The name should be General Chemistry. The same applies to all the other chemistry courses, i. e., drop the portion containing the words "Pharmaceutical Chemistry."

I believe the majority of schools have their chemistry courses taught by the chemistry department. Students in other fields usually take the course along with pharmacy students. Obviously, the pharmacy aspects cannot be given in such a course.

THOMAS D. ROWE,
Medical College of Virginia.

It pleases me to put in writing certain of my convictions which I know I have written you before in another connection.

First, to answer your specific questions:

1. Yes, there is such an entity as organic and inorganic pharmacy.
2. No. Such material cannot be adequately covered along with our pharmaceutical chemistry for these reasons: The latter should concern itself primarily with production and assay methods. Any course which even approaches a satisfactory coverage of these fields will require all the hours which can be allotted to these courses. On the other hand, the physical and chemical properties which are of particular interest to pharmacists cannot be covered in the regular chemistry courses without sacrificing the exposition of fundamental principles.
3. I feel that the Syllabus designations for courses should be reasonably descriptive. Personally, I am satisfied with the old terms, viz., Inorganic and Organic Pharmacy.
4. Ideally, these courses should precede dispensing, or at least, be concurrent.
5. It doesn't belong in dispensing.
6. My own attitude is that our catalog is fairly clear on this! In other words, I like the way we handle these courses. Since Dr. Crockett set them up in large measure before his passing, I am not "blowing my own horn."

KARL L. KAUFMAN,
Medical College of Virginia

Your inquiry came this morning, and as I know time is short I shall try to answer your questions the best I can, if only in a superficial way.

At the beginning I may say that I am handicapped since I have not received the April issue of the Journal, and our other issues referred to are at the bindery.

During the past school year our pharmacy staff held several lengthy meetings building a new curriculum to meet the new tentative Syllabus requirements, so that although I can speak for our staff in a general way, some of the subjects referred to are not within my special field. If Dean Sudro were not out of town this week end, I would talk some of your questions over with him, as he had some definite ideas on the subject.

I submit the following answers to your questions:

1. There is such an entity as the pharmacy of inorganic and organic substances if one so chooses to make it. You remarked that you were searching for a comparison here. What I have in mind doesn't fit entirely, but it reminds me of the problems in taxonomy and what Dr. Richtmann refers to as the "splitters" and "lumpers." I think the question is here how many courses should a topic be divided into? In our new curriculum we have not gone along with the Syllabus on this subject. The Syllabus has (to a certain extent) things misnamed. What they refer to as General Chemistry and Inorganic Pharmaceutical Chemistry is nothing but general chemistry with reference to official compounds included, and what they refer to as the Pharmacy of Inorganic Substances is what we consider Inorganic Pharmaceutical Chemistry. In other words, if a person needs a general chemical background, let him go to the chemistry department (who have specialists in the field) and get a good course in general chemistry, then let him come back to the school of pharmacy and get the practical and theoretical applications in Inorganic Pharmaceutical Chemistry. This theme can be carried out in the organic fields and in botany and pharmacognosy.

2 and 3. Answered in 1, above.

4. According to the Syllabus, I believe, some of this material is already included in dispensing; i. e., solutions involving chemical reactions and incompatibilities. Some of the other phases such as pharmaceutical uses and nomenclature cannot profitably be held from the student until he reaches dispensing, and hence could be best offered in some other courses.

5. Yes.

6. Outlined in 1 above.

We can easily answer the group of teachers that insist that there is a need for Advanced Pharmacy I and II, since the material is not stressed in pharmaceutical chemistry, by saying, stress it in pharmaceutical chemistry—we do. If their answer is that the instructor doesn't do it, then my answer is, get an instructor that will.

KENNETH REDMAN,
North Dakota State College

1. Is there such an entity as the pharmacy of inorganic and organic substances? I don't think there is in *modern* pharmaceutical education. It seems to me the information included in this field is superficial, to say the least, for a student who already has his preliminary chemistry. It is my opinion that the material covered here is the type of material or information the young apprentice received in the early days from the pharmacist before either had any real training in chemistry.

Today the pharmacy student receives his preliminary courses in so-called pure chemistry and then makes the application to pharmacy in his pharmaceutical chemistry. Here the source, manufacture, properties, and solubilities of chemical substances used pharmaceutically are placed at his disposal.

The pharmaceutical peculiarities of these substances, which I interpret as belonging to the pharmacy of these substances, such as the powdering of camphor with use of alcohol, the wetting of sulfur with glycerin or alcohol, or the wetting of tragacanth with alcohol before contact with water is allowed, in other words, the extemporaneous handling of these substances in various mixtures is a dispensing problem and should be and is adequately treated in our dispensing courses. In other words, I see no place for this information in a separate textbook.

On the other hand, the reasons for using such chemicals as Magnesium Oxide in Fluid extract of Cascara Aromatic and Magnesium Carbonate in Syrup of Thyme, Tolu and Ginger, which would also be called the pharmacy of these substances, should, I believe, be taught in Pharmaceutical Preparations. It is here the application is made and it is here, in conjunction with the technique of preparing the pharmaceutical, that I think this material should be taught.

2. If there is, is this entity adequately treated in our courses in pharmaceutical chemistry? I do not believe this material is adequately covered in pharmaceutical chemistry alone but that it is covered adequately by courses in dispensing, preparations and pharmaceutical chemistry.

3. If there is such a field but is wrongly named in the Syllabus, what should it be called? I do not believe there is such a field. I believe the material in the Syllabus under Advanced Pharmacy I and II, should be called Pharmaceutical Chemistry, Inorganic and Organic.

4. Do you think that this material covered in Advanced Pharmacy I and II should be included in a course in dispensing? No—not entirely—much of the material is covered in preparations and pharmaceutical chemistry.

5. If the material naturally belongs in a course in dispensing, would the inclusion of it require an increased amount of time for that course?

All of the material does not fall in the dispensing realm, but between dispensing, preparations and pharmaceutical chemistry. The time allotted for these courses would not need to be increased. (See II and III.)

6. Have you any other definite suggestions as to how the material under discussion may be handled? I have none Dean Lyman. It is my opinion this material is now being handled adequately by dispensing, preparations and pharmaceutical chemistry. The only other way would be a pharmacy handbook alphabetically arranged.

I hope I have answered your questions, Dean Lyman. You already know how I feel and I don't think I have added much to what I had written you before regarding this material. I should like to see the response of the other members in this regard. Will that be possible?

LOUIS W. BUSSE,
University of Wisconsin

I have read over your presentation with respect to the status of the prepharmacy course and the position of the Syllabus. In reply to your specific questions on page 2, I have the following comments:

I seriously question the need of courses such as the pharmacy of inorganic and organic substances in a four or five year course in pharmacy. The courses were evidently designed for and necessary in the old one or two year pharmacy courses. If all are agreed that our pharmacy students should have a basic course in general inorganic chemistry and organic chemistry given by either Arts and Science faculties or by Pharmacy faculties, and, if all are agreed on courses in inorganic Pharmaceutical Chemistry and organic Pharmaceutical Chemistry which are usually given by Pharmacy faculties, then there is no need for the courses Advanced Pharmacy I and Advanced Pharmacy II. The time used by these could be profitably applied to other material.

I had the opportunity of seeing two suggested sample write-ups for magnesium carbonate for use in the text "American Pharmacy." The information given was largely of a chemical nature, included medicinal uses and an explanation of the use in official preparations. The chemistry of the materials surely is covered thoroughly between General Chemistry and Inorganic Pharmaceutical Chemistry and Organic or Organic Pharmaceutical Chemistry as outlined in the Syllabus. Any special applications to official preparations rightfully belong in the course in dispensing. The inclusion of the special pharmaceutical applications would require no increased time for it is my belief that these items are mentioned in these pharmacy courses as they are now given. The pharmacy courses should be developed as sciences applied to the special pharmaceutical problems. Some of the official pharmaceutical preparations may not require any knowledge of chemistry but the preparation of many of them involves the knowledge gained from other sciences.

MELVIN F. W. DUNKER,
University of Wisconsin

It is my belief that the essence of the difficulty existing between the two groups of teachers regarding the manner in which the so-called courses Advanced Pharmacy I and II should be taught lies in somewhere between prejudice based upon past practices, selfishness, and the type of training the teacher has had.

In the first case, the old-timers learned the material the old *materia medica* way and have either taught it that way or have seen it done that way for many years. Even their designations for the work as "Inorganic and Organic Salts" holds on in many cases. They think that a student ought to learn by brute memory certain points such as Latin title, English title, abbreviation, synonyms, formula, source, strength, density, solubility, description, dose, and use. Well-trained academic teachers are ashamed of teaching such "stuff." Now, I admit that we must know a lot of those things but what does a student really "know" when he gets through with a course like that? Incidentally, it is my impression that the above "stuff" is what is meant by the pharmacy of inorganic and organic medicinals.

My second point, selfishness, involves both selfishness between the members of the school of pharmacy and the chemistry department and among the staff members of the school themselves. Each feels that he must teach what he is assigned and some recent encroachments. Everyone knows that some of our schools have to be very careful to keep their pharmacy courses free from chemistry for fear of losing the right to teach the course. Within the school itself there must be overlapping of material taught and cooperation among staff members. More than that, there must be integration in a sense that we must view our curriculum as a four year affair and not merely appraise each course by itself. After all we are aiming at the same ultimate goal and even then our graduates are the embryonic creatures, not the freshmen. Sometimes we lose sight of what all of us are trying to attain—well-trained pharmacists and well-educated citizens.

My third point, the teacher's training, has a great deal to do with an instructor's viewpoint. If his training is poor, he can teach no other way except by the "parrot system." If his training is good, then it depends upon his special interest. A biologically-interested teacher prefers a therapeutic approach and minimizes others while a chemically-interested staff member is liable to spend all of his time on chemistry. There is so much to teach and so much that is important, that both teachers can justify their efforts. Of course, the student is the one who suffers in either case.

A good school must have specialists in each of these fields and the emphasis allowed to exist in each case, but there must be tolerance and a guiding influence at the top. For example, at our school both Advanced Pharmacy I and II are taught from a chemical point of view, but this is followed up by a good pharmacology course which furnishes the structure from a therapeutic approach. Our pharmacology is not physiology, nor bioassay, nor therapeutics but a course designed to fit into our integrated curriculum as well as meriting recognition as pharmacology in the accepted sense. Yet our Advanced Pharmacy I and II are

not chemistry courses. What is the difference between education and training? Maybe a clarification on this point may be the solution to our problem.

Now to answer your questions:

1. There is no such entity as the pharmacy of inorganic and organic substances that is worthy of truly academic dress.

3. There is such a field. I like the names "Inorganic Medicinals" and "Organic Medicinals."

4. Dispensing Pharmacy should be broad in its scope but the responsibility for this matter ought to be in a separate course.

6. Irrespective of title, the material could be largely covered in pharmaceutical chemistry, if preferred. I am not in favor of too much standardization of curricula. This suggests some weakness on the part of a school. Each school ought to be good enough to stand by itself, yet turn out well-rounded pharmacists capable of rendering pharmaceutical service of the highest quality now and throughout his lifetime as well as influencing the forward progress of professional pharmacy.

ROY A. BOWERS,
University of Kansas

I have studied your letter to all members of the Problems and Plans Committee. It is quite understandable that the controversy which you point out would exist. I would say that the basis of the controversy is prefaced by the individual approach to the problem of presenting pharmaceutically important information in regard to inorganic and organic compounds recognized as beneficial in medical practice.

My opinion is somewhat on the borderline between the two schools of thought with the stronger inclination to concur with the group who believe that courses in pharmaceutical chemistry permit insufficient time to be spent on the compounds in question.

It is true that we teachers insert and stress the chemical phases of each preparation, be it one compounded in courses in pharmaceutical preparations or in prescriptions. Even though one fully discusses each ingredient in a laboratory preparation, many inorganic and organic medicinal products are not encountered in the laboratory. Of those which are met, no groupings are possible so that the information has no tendency to impress the student as to the dominant importance of certain classes of compounds and the minor importance of others. Again, in the pharmaceutical laboratory, the stress is on official preparations which with compounds used extensively in the practice of medicine but lacking excludes to a large extent, the possibility of a student becoming familiar official status.

Conceiving the possibility that all official inorganic and organic compounds were used and discussed at some time during the combined laboratory courses, I believe that this information should be correlated in a specific course to bring order out of chaotic knowledge.

The practice of pharmacy is the application of our knowledge of chemical compounds. It, therefore, is my opinion that a course which systematizes these compounds into classes is extremely important to the future welfare of the student. I do not believe it possible to include this large area in other courses and attain thoroughness in the information it covers.

JAMES W. JONES,
State University of Iowa

1. I do not believe that we can separate our courses in pharmacy into inorganic and organic. It seems to me that we must deal with both inorganic and organic chemistry when we work with some of the simplest preparations in pharmacy.

2. Part of the subject matter is discussed under pharmaceutical chemistry. The skills, technics and traits used in preparation of pharmaceutical products are not discussed.

3. The field is wrongly named.

4. The only answer that I can see is no.

5. There will be a considerable amount of additional time required if these courses were to be included in the dispensing course.

6. The courses should be named Beginning Pharmacy and Advanced Pharmacy with no relationship to chemistry or chemical naming. The beginning course can cover the fundamentals of pharmacy and the advanced course would be a continuation of the former but with more advanced applications.

I believe that the course as given at Nebraska or at Purdue covers the field fairly well and neither of them made a division according to the chemical classification.

H. GEORGE DeKAY,
Purdue University

At the outset I should like to say that my reaction to the six questions raised by you is very similar to that of your friend who states that there is *no such thing as the pharmacy of inorganic and organic substances*. If we look upon pharmacy as the intelligent use of knowledge obtained in the fields of chemistry, physics, and several of the life sciences to the problems arising in the preparation and use of medicinals,

we see that one is not justified in defining a field such as the pharmacy of inorganic substances. As soon as we attempt to break the teaching of pharmacy into smaller and smaller compartments, we cause the student to lose sight of his true objective—the application of modern scientific knowledge (chemical, physiological and biological) to the problems of the preparation and use of therapeutic agents. The broader and more fundamental the teaching, the healthier and the more progressive the outlook of the student. We should teach, in so far as is possible, first principles; secondary, facts and details will then take care of themselves.

What do we wish a student of pharmacy to know about inorganic chemicals? First, he must know relevant chemical properties of the agents he is to handle. Such information is chemical and should be taught as such. Secondly, he should know the physiological action of these chemicals; this information is pharmacological in nature and should be taught as such. He must use this prior information so as to prepare the material for use in medicine. This is pharmacy. It matters little whether the drug is organic or inorganic, the pharmacy is identical.

Concerning your questionnaire:

1. There is no such entity as the pharmacy of this or that group of substances.
2. The material usually covered in such specialized courses is more adequately taught in other courses such as pharmaceutical inorganic chemistry (which is really an extension of inorganic chemistry and pharmacology).

Our group has for some time considered the problem of expanding the curriculum in pharmacy.

JOHN J. EILER,
University of California

I am delighted to be given the opportunity to express my opinion and to answer the questions that you have formulated in your letter to the Members of the Problems and Plans Committee.

The following answers are given in the order in which the questions appear in your letter.

1. Yes.
2. No.
3. Call it what you may but do not delete the subject matter.
4. It should be applied in a course in dispensing but it should not be given in a course in dispensing as basic subject matter.
5. A course in dispensing is sufficiently burdened with its own objectives to be weakened with the added responsibility of teaching the

basic facts that are incorporated in the courses we now call Advanced Pharmacy I and II. It is true that it may become necessary to recall certain principles that the student has forgotten from time to time, but it would be asking entirely too much of this course to give these facts for the first time in this student's preparation to become a pharmacist.

6. Be realistic. Pay more attention to the opinions of a pharmacist who also knows chemistry and pay less attention to a good chemist who doesn't know very much pharmacy.

CHARLES W. BAUER,
Massachusetts College of Pharmacy

It seems to me that the problem of the pharmacy of inorganic substances, while essentially one of pedagogy, must be solved by a consideration of the broader question of the classification, organization and delimitation of the broad field of chemistry. The boundaries of a field of science are made by nature, and all we do is to uncover them and define the divisions in words to help us to understand what preexists in nature. If we go counter to this and make the boundaries artificial, we only end in confusion and complicate our problem of instruction.

So let us look at the problem objectively, divorced from our personal loves and loyalties to pharmacy and putting aside the background of our personal training and the curriculum which exists in the schools in which we now teach. When I do this I see chemistry as two concentric circles. The inner circle is the basic fundamentals of chemistry. Here are the great laws of chemistry, the chemical doctrines and the basic philosophy and traditions and history of this great science. Admittedly anyone who is to deal with the substances of the world—chemicals, must possess the knowledge of this inner circle. Now in the outer circle are innumerable sectors. These are the specialties of the world of chemistry. It is not to be expected, indeed it is impossible, for a man to possess all of these sectors, but once he has the center he can proceed to any one of them. He may be a paper chemist or a starch chemist and find work for his own and many other lifetimes. Or he may choose the sector concerned with chemicals which are used on the alleviation of disease and he would be called a pharmaceutical chemist.

Now it seems to me that the problem before us is to make this sector our own. It is conceivable that a man might become a specialist in this field without any contact with what we know as pharmacy whatever. From the standpoint of our interests we don't want to see this field exploited by others so the problem of the Syllabus should be such that it would make a man who wants to master the pharmaceutical sector of chemistry, seek a pharmacy school to perfect himself, simply because in pharmacy schools there would be the best teaching of this subject and the greatest research activity.

So this answers your first question regarding the existence of an entity such as the "pharmacy of inorganic or organic substances." There is

a sector or specialty of chemistry that deals with the problems of, the nature of, the synthesis, manufacture, and preparation for consumption by patients, of chemical substances used to alleviate disease. If you want to call it pharmacy or chemistry it will be the same thing. The division was made by nature.

Regarding questions 2, 3, 4 and 5 I think that the material is adequately handled at the present time when one looks at the whole picture. In some cases the boundaries are artificial perhaps but the overall result seems adequate.

Question 6 deals with the problem of removing these artificial barriers. I think that first the student should have a course in the fundamentals of chemistry. This is the subject matter of the inner circle. This course cannot be called pharmacy. It is the same course that anyone who is later going to specialize in one of the outer sectors would get. When this is mastered then the student would get the material of the special sector we have been referring to. This is the subject matter which has been called "The Pharmacy of Inorganic" and the "Pharmacy of Organic" substances. It seems to me that the term implies that there is a pharmaceutical aspect to every inorganic and organic substance in existence. A better name would be the "Chemistry of Pharmaceuticals." It would deal with those chemical substances which are used pharmaceutically and medically. This is what the Syllabus actually does, selecting from the whole of chemical substances, those which are of interest pharmaceutically and giving them special attention. So is not the "Chemistry of Pharmaceuticals" more accurate? Then we come to what on the surface appears a more specialized problem; that of dispensing. This again is simply more detailed knowledge of the chemical behavior of this special group of substances when they are being made ready for the patient and the problems are solved by the application of the fundamental principles learned in the inner circle.

So you see I think the problem is solved in fairly simple fashion by going from the general to the specialized. Actually there are difficulties, for this appears to make pharmacy subordinate. But while this view makes it a branch of chemistry it does not make it any less important. Pharmacy is so rich in tradition that there is a psychological barrier to the acceptance of the organization I have described. This is unfortunate for there is no implication that pharmacy is unimportant in this view. One has but to witness the contributions made by the petroleum chemist and the starch chemist, or even the pharmacologist, all of whom freely admit their fields to be specialties within a larger field of human knowledge.

JAMES M. DILLE,
University of Washington

In regard to points II and III, I am of the opinion that they are separate entities from the pharmaceutical chemistries. I presume also that others will have the opposite opinion, and that it will therefore de-

pend a great deal on the way pharmaceutical chemistry is taught in the various schools. In my experience as a member of pharmaceutical faculties, I have found that the pharmaceutical chemist of the staff has been more a chemist than a pharmacist, with many of them not having the pharmacy viewpoint at all. In this event I don't see how such a man could possibly yield anything to his students other than the chemistry angle pure and simple, in which event also they would be getting just more chemistry. I have had advanced students who had pretty good opinions about things in general tell me this very thing, that pharmaceutical chemistry was just more chemistry and with no applications to its relationship to pharmacy being mentioned. In the Pharmacy of the Organic and Inorganic substances, the pharmacy angles should be given the major emphasis. Now the questions, and if they are wrong I am certainly open minded and ready to be convinced otherwise.

1. I think there are separate titles of the pharmacy of organic and inorganic substances.
2. They are not as a rule adequately treated in our present pharmaceutical chemistry courses.
3. I am satisfied with the names as used.
4. It should be prerequisite to the course in dispensing. It will be used and covered, yes, but it should not be the purpose of dispensing to teach it. Dispensing to my mind is the finishing touch to the student's whole pharmacy program. It should be a summarizing review with all the practical applications possible from all courses actually put into use.
5. If it is included in dispensing, the time allotment would have to be increased to take care of it.
6. This one I would like to think about some more.

L. DAVID HINER,
Ohio State University

I believe as you imply that the most controversial topics in the tentative edition of the Syllabus are those dealing with Advanced Pharmacy I and II and the four dealing with the chemistries and pharmaceutical chemistries. I do not believe that we can deal with Advanced Pharmacy without making some distinct changes in the chemistry courses. Before going further I will answer your questions.

1. *I most surely feel* that there is such an entity as the pharmacy of inorganic and organic substances (although the titles of the Syllabus are not the best ones and are indefinite). There certainly are pharmaceutical aspects to the use of sodium bi- and sodium sulfite as preservatives in pharmaceutical preparations; potassium chloride in the preparation of isotonic solutions; of sodium borate as a pearling agent in creams and of the various inorganic salts as buffers in pharmaceutical preparations. All of these certainly do not fall in the field of chemistry

or pharmaceutical chemistry. There are certainly pharmaceutical aspects to the use of the p-hydroxybenzoates as preservatives in pharmaceutical preparations of the aerosols and other wetting agents; of soaps as detergents; of the new emulsifying agents, and the new resins. I could go on to much greater detail if space permitted.

2. The material is not adequately treated—nor should it be treated—in courses in chemistry and pharmaceutical chemistry since the purpose of these courses in the Syllabus is basic in nature. We are supposed to be training pharmacists and not pharmaceutical chemists.

3. I believe that the titles Advanced Pharmacy I and II and the subtitles of each are unfortunate since the first part of the title is indefinite and the latter is open to the criticism and controversy that is now confronting us because the chemists and others have no idea as to what the pharmacy of these substances is. How could they since many of them are not even registered pharmacists. These titles were proposed by a pharmaceutical chemist member of the Syllabus Committee and at the time he proposed them it looked as if it would be a happy compromise. Unfortunately, as often happens, the one who proposed these titles has been one of the active critics of them.

4. This material has no place in dispensing since it is basic to dispensing.

5. See 4.

6. I am going to propose other titles to the Syllabus Committee for some of the courses in controversy, in September, which may prove to be a satisfactory and worthwhile solution of this problem.

I agree with your suggestion that if we can clarify this most troublesome area of the Pharmaceutical Syllabus we will have made great progress toward better teaching and a better curriculum. We will be able to attack the problem of prepharmacy education much more intelligently. I am afraid that there are too many persons—including deans—who look upon their courses and curricula as ideal and hence are satisfied with the status quo in their own schools. When a person or school reaches this state, they are hopeless and beyond advancement. Remember the old prime minister of England who carried the umbrella!! There are persons on our faculties who believe that there is but little to pharmacy and that it is pharmaceutical chemistry or something else. If this is the case, I for one say, for goodness sake let us stop the subterfuge and call it anything else but pharmacy. In England they call themselves chemists but they are not even recognized by the real chemists of England. There have even been members of the Syllabus Committee, who have lost sight of the criteria that guided the selection of courses in the tentative 5th edition—i. e., the selection of courses necessary to produce a safe and competent pharmacist and to have the Syllabus accepted as one of the standards for accreditation by the Council.

HENRY M. BURLAGE,
University of North Carolina

I have your communication and after reading it and the indicated pages in the Pharmaceutical Syllabus, I shall attempt to answer the six questions which you raise.

1. Frankly, I do not know exactly what is meant by the pharmacy of inorganic and organic substances. If some one would take a typical inorganic medicinal, say potassium bromide, and a typical organic medicinal, say aspirin, and write the pharmacy of these two substances, then I should be in a better position to understand what they mean than I am now. Therefore, if this question means is there such an entity as the pharmacy of these substances *over and above* thorough courses in pharmaceutical chemistry and dispensing, then my answer is no.

2. I do not think that this entity exists in those curricula which include properly constituted and adequately taught courses in pharmaceutical chemistry and dispensing. I certainly believe that there are such things as Advanced Pharmaceutical Chemistry, both organic and inorganic, and Advanced Dispensing just as there is advanced physics and advanced physiology.

3. See 1 and 2.

4. From what I see in the Pharmaceutical Syllabus, I should say that it would be included in the courses in pharmaceutical chemistry and dispensing.

5. I do not think so, but my experience with adequate dispensing courses is limited.

6. See 1 and 2.

W. TAYLOR SUMERFORD,
University of Georgia

Dr. Sumerford in his discussion states, "Frankly, I do not know exactly what is meant by the *pharmacy* of inorganic and organic substances. If someone would take a typical inorganic medicinal, say potassium bromide, and a typical organic medicinal, say aspirin, and write the pharmacy of these two substances, then I would be in a better position to understand what they mean than I am now." In this statement Dr. Sumerford has placed his finger upon the cause of much of our confusion. Pharmacy does not have the same meaning to all people.

It is evident from the discussions in this report that this is true even of the personnel of the Problems and Plans Committee. No two individuals look at the world alike and each individual defines pharmacy in the light of his own exper-

ience. It should be remembered that definitions are man-made. The early builders of the Syllabus had trouble with definitions. They thought that the Committee could sit around the table and make definitions defining the various pharmaceutical fields. For the sake of argument, that could be done, but they found that when they tried to apply these definitions in life they didn't stick.

Dictionaries are not made by a group of scholars saying what a word shall mean but by a group of scholars who study what different groups of human beings mean when they use a certain word. So in Webster's dictionary the word *cell* is found to have nine meanings and the word *labor* has eleven. Now a mason lays bricks and to him laying brick is labor. To me, medically trained, *labor* is a woman giving birth to a baby. Now if this mason and I should get into an argument over labor and I was thinking of a woman having a baby and he was thinking of a man laying bricks how far could we get? Probably the confusion would end by the woman giving birth to bricks. Now that parallels the situation in which we find ourselves in our pharmaceutical controversy. We get nowhere.

It becomes necessary, therefore, in order that we may be talking about the same thing, to define pharmacy. What is pharmacy?

It might be well to digress for a moment and try to define medicine. What is medicine? The dictionary gives several meanings but in its broadest sense it includes every known method, from drugs to suggestion, used, by the physician, in the prevention and treatment of disease. Applying the same principle in defining pharmacy it becomes every thing the pharmacist does in the practice of his profession which deals with the preparation, the compounding, the standardization, the distribution of drugs, chemicals, narcotics and poisons whether for medicinal or industrial purposes.

When we talk about the pharmacy of chemicals then, we mean those characteristics of chemicals with which the pharmacist is concerned, whether they are physical, chemical, physiological, pharmacological, therapeutic or economic. Dr. Eldin V. Lynn has written a text on Pharmaceutical Therapeutics which has been highly commended in the Journal of

American Medical Association. That text deals with those phases of therapeutics which the pharmacist is especially concerned in the intelligent practice of his profession. That is pharmacy in its broadest sense. Those who insist that pharmacy is applied chemistry and applied chemistry only, are decades behind in their medical thinking.

But to get back to Dr. Sumerford's wish that some one would write a monograph which would indicate what is meant by the *pharmacy* of inorganic and of organic substances; so that he might have a concrete example of what is meant by the *pharmacy* of such substances.

This had already been done by Dean H. C. Newton, who has been outstanding in his belief that there is such an entity as pharmacy. Choosing as his subject Magnesium Carbonate, U.S.P., he wrote the following as a monograph type:

SPECIMEN, PHARMACY OF INORGANIC CHEMICALS
MAGNESIUM CARBONATE, U.S.P.

The official magnesium carbonate is a basic hydrated or a normal hydrated magnesium carbonate containing the equivalent of not less than 40.0 per cent and not more than 43.5 per cent of MgO . It is furnished by the manufacturer in three forms for pharmaceutical use: a bulky powder; light, friable blocks or masses; and a dense powder. All of these forms have the synonym, carbonate of magnesia, and the blocks are often called "block magnesia."

The use of magnesium carbonate as an antacid is reported to be on the increase in some localities. It was highly recommended in Bulletin A, August 15, 1938, of Cook County Hospital for gastric juice neutralization (Sippy treatment). In New England its use internally is decreasing.

Magnesium carbonate is practically insoluble in water but it imparts an alkaline reaction to it. This fact is important in some pharmaceutical uses. It is insoluble in alcohol. The lighter varieties are very absorbent and act as good diffusing agents.

Each form of magnesium carbonate has specific pharmaceutical uses. The fine, bulky, white powder is the form to be used as a diffusing agent in making aqueous solutions of resinous substances, such as the special solution of Tolu Balsam required in making Syrup of Tolu Balsam, in which the imparted alkalinity aids in the solution of the resin. The same is true in making Syrup of Ginger and Aromatic Syrup of Eriodictyon. This alkalinity is objectionable, however, in certain other preparations because of its action on volatile oils, and therefore, magnesium carbonate should not be used as a diffusing or clarifying agent in preparing aromatic waters or other preparations flavored with volatile

oils. It cannot, of course, be used satisfactorily in acid solutions, which readily decompose it. Thus, it cannot be used in preparing Syrup of Orange, both because it would destroy the fine flavor and because it would react with the citric acid in this syrup. This light, powdered form, unless otherwise specified, is used in bulk powders and in liquid mixtures.

The dense or heavy powdered form is unsatisfactory as a diffusing agent and is used when magnesium carbonate is prescribed in divided dosage such as powders (papers) and capsules.

The block form is desired by some "magnesia eaters," who find it convenient to nibble on it to relieve "heart burn." The block is also a convenient form for use as an agent to absorb grease or oil from fine textiles and for whitening shoes.

The popular Solution of Magnesium Citrate is made officially from magnesium carbonate. The formula is on pages 271-272 of the U.S.P. XII. It is important in preparing this solution that the magnesium carbonate used be of known MgO content so that the product may be properly adjusted to insure stability. An excess of magnesium carbonate will cause precipitation in the solution. The blocks of magnesium carbonate labelled "for technical use" should not be used in this preparation.

(I would include a study of the preparation of solution of magnesium citrate here but it has been decided, I believe, to include it in Part II.)

In prescriptions, the chief incompatibility is the presence of acids which decompose it. Since it is most commonly dispensed in dry form, this incompatibility is infrequent.

Magnesium carbonate should be stored in tightly closed containers as it absorbs moisture and odors. It is relatively stable, however, and there is seldom any evidence of deterioration except by assay.

When this monograph was submitted to Dean R. A. Kuever, who also believes pharmacy is an entity, he suggested that if space was a problem he thought the monograph could be greatly shortened and yet keep the essentials. The teacher would, of course, have to give more supplementary work. Dean Kuever wrote the following monograph as a type:

SPECIMEN OF MAGNESIUM CARBONATE MONOGRAPH

MAGNESII CARBONAS—Magnesium Carbonate—Magnesia, Carbonate of magnesia, Magnesia alba.

A basic hydrated magnesium carbonate containing 40 to 43.5 per cent of MgO. It is approximately $Mg_3(CO_3)_4(OH)_2 \cdot 5H_2O$.

White, stable, light or dense powder, or, friable blocks. Sparingly soluble in water to which it imparts alkalinity; insoluble in organic solvents; soluble in acids with decomposition.

Prepared by precipitation of a soluble magnesium salt and a soluble carbonate. Usually magnesium chloride or sulfate and sodium carbonate are employed. Prepared also from dolemite, magnesite or sea water. The light variety is made from cold while the dense is prepared from hot solutions.

It is used as an antacid, laxative, in special cases as a filtering medium, as an absorbent, as a dusting powder, and in making salts and preparations of magnesium. The light variety is preferred in fluid suspensions; the dense in capsules or tablets, while the block is used for whitening shoes and on the hands of gymnasts and acrobats.

Its dose is 0.6 gm., 10 grains as an antacid and 8 gm., 2 drachms as a laxative.

Dean A. G. DuMez, a third great defender of the faith and a believer in pharmacy as an entity, commented upon these two monographs as follows:

"I have looked over Dean Kuever's monograph on magnesium carbonate and I am impressed with its brevity and conciseness. However, too much of it is devoted to chemistry in my opinion and not enough to the pharmacy of magnesium carbonate. Then too, there are some inaccuracies in it. For instance, in the second paragraph it is stated that magnesium carbonate contains 40-43.5 per cent of magnesium oxide. As a matter of fact, it does not contain any magnesium oxide. It contains magnesium equivalent to 40-43.5 per cent of MgO.

"In my opinion, the method of preparation of magnesium carbonate is irrelevant to the pharmacy of magnesium carbonate.

"The monograph contains nothing on the incompatibilities of magnesium carbonate. It does state that it is sparingly soluble in water, whereas it is almost insoluble.

"In summarizing my opinions, I would again repeat that I like the form and brevity of Dean Kuever's monograph, but I am more impressed with the contents of Dean Newton's monograph, which in my opinion, contains the information on the pharmacy of magnesium carbonate most likely to be sought for by pharmacists."

Dean H. C. Muldoon, who lays no claims to being a pharmacist (his field is chemistry) but has some conception of the real needs of the practicing pharmacist, wrote the following specimen monograph of camphor:

CAMPHOR

Structural Formula.

Nomenclature.

Source.

- (a) Natural (how produced).
- (b) Synthetic (brief statement, Synthesis: functional groups, chemical reactions and structure in detail to be studied in organic chemistry).

Summarized Description. Comparison of natural and synthetic product; solubilities in pharmaceutical solvents; use of agents in powdering; liquefaction with menthol, etc.; possibly chief incompatibilities, although this will be studied under Dispensing.

Stability. Preservation. Storage.

Medicinal Uses. (Brief.) Anodyne, stimulant, etc. A brief statement of commercial uses and importance may be included.

Doses.

List of preparations containing camphor.

Derivative, monobromated camphor.

Bibliography (when desirable).

Dean Muldoon added the following note:

"Every graduate pharmacist should know this much about camphor. I am sure all of it cannot be taught to advantage either in the organic chemistry nor the organic pharmaceutical chemistry of the Syllabus, nor scattered under waters, etc."

It will be noted that Dean Muldoon has left the details to be filled in but he has pointed the way in his gentle inimicable way that makes him so beloved by his male friends and deliriously fascinating to his female associates.

It should be noted also how in all of these monographs the authors point toward the medicinal and industrial uses. That is pharmacy. After a study of these monographs Dr. Sumerford makes this statement:

"Now the question is this: is there an area in the instruction of pharmacy students which is not being adequately covered by the courses in pharmaceutical chemistry, and in which the course (s) in the Pharmacy of Medicinals would fill a specific need? If we may judge from what I consider to be an adequately constituted course in pharmaceutical chemistry as checked against what Dean Newton considers to be an adequate course in the pharmacy of the same compound, then I am forced to the conclusion that there is not a need for the two courses to cover the same compounds. Now, I realize the fallacy in making decisions based on an outline from only *two* men, and on a *single* compound at that, but that is all I have to go on at present.

"I think that since you have got some of these monographs on paper, they can and will be discussed broadly and much more intelligent-

ly than was possible with only the names to go on. I am sure that you will receive a number of letters which will be helpful to you in your tedious, gut none-the-less worthy undertaking."

These monographs are included in this report for the single purpose of illustrating what these men mean by the pharmacy of inorganic and organic chemicals. At the chairman's request Dean Newton made the following statement in order to more clearly define what is meant by the pharmacy of chemicals:

"To me it seems absurd for the chemists to say there is no such thing as the pharmacy of inorganic substances and yet admit that there is such a thing as the pharmacology of inorganic substances.

"I am sure that a thorough knowledge of both inorganic and organic substances is necessary in order to dispense them intelligently. The actual dispensing of these substances in proper forms is a division of pharmacy, and we agree that a course on this subject may well be called 'dispensing.' Such a course is properly the culmination of the pharmaceutical curriculum and presupposes a thorough knowledge of the substances dispensed. All of this presupposed knowledge is not chemistry, very evidently; much of it is based on the physical properties, on the economics, and on the uses of the substances as well as on an understanding of a nomenclature peculiar to pharmacy.

"I have known of brilliant chemists who made very embarrassing errors in dispensing because they did not have this knowledge. Not very many months ago an honor society graduate of a large middle west university college of pharmacy where the pharmacy of inorganic substances is not considered, made so many errors in dispensing that he lost his job in a hospital pharmacy, in spite of the shortage of manpower. One of the weaknesses of the graduates of such colleges is their lack of knowledge of pharmacy, the application of their scientific information in the preparing of drugs for use. We must be sure that our textbook does not contribute to this weakness.

"It is difficult for me to believe that in a course in chemistry a student will learn the following, which are typical of what is learned in these pharmacy courses that are being discussed:

"(a) The selection of the particular sulfur to be used under varying conditions. A knowledge of the physical characteristics of each variety, including its behavior when in contact with water, alcohol, ether, solution of methyl cellulose, liquid petrolatum, petrolatum, solution of calcium hydroxide, *etc.*

"(b) The technique of dissolving sodium bromide, boric acid, iron and ammonium citrates, strong silver protein, silver nitrate, potassium permanganate, ferric hypophosphite, mercury bichloride, *etc.*

"(c) The properties of calamine and zinc oxide and the reduction of these substances to extremely fine particles under varying conditions common to extemporaneous preparations of these substances.

"(d) The properties of bentonite, kaolin, aluminum hydride and the application of the knowledge of these to pharmacy.

"(e) The many synonyms for the mercury compounds, the iron compounds, the calcium compounds, etc., synonyms used commonly in pharmacy but not elsewhere.

"(f) The characteristics of talc and other silicates, magnesium carbonate, calcium phosphate, etc., which are significant in their use as diffusing or clarifying agents.

"In fact, almost every substance has some characteristics which are significant for the pharmacist but often unrecognized by the chemist. A knowledge of these is essential in dispensing; the study of them from this viewpoint is surely pharmacy.

"I believe the confusion is really caused by the unwillingness of the chemists to accept terminology which was not included in their own educational experience. If the argument is based largely on terminology, I suggest a compromise. Call it the *dispensing* of inorganic substances and of organic substances."

A close study of the statements in this report of the thirty men making up the personnel of this committee leads the chairman to the following conclusions:

1. When we have discussed the Pharmacy of Inorganic and of Organic Substances we have not had in mind the same conception of what pharmacy is or what the objectives of pharmacy are. If we can agree to the statement Dr. Burton so aptly made soon after he became president of the University of Michigan, namely that the chief and first function of a college of pharmacy is to train men to give a better and wider and more valuable pharmaceutical service to every community in the commonwealth, then we have a common objective and have made progress. President Burton at that time said frankly that it looked to him as if his own institution had made its chief function the training of analysts for the great pharmaceutical industries of Detroit. President Burton also said that if the college performed its first function well the pharmaceutical industry would be cared for automatically by that smaller group whose ultimate objective is to enter the field of pharmaceutical research.

While there is much difference of opinion as to whether there is such an entity as the pharmacy of inorganic and organic substances the trend is in that direction. The difference of opinion, I believe, is due largely to the different interpretations placed upon pharmacy. With a more definite interpretation of what we mean by pharmacy these differences will tend to become less.

2. The majority opinion is that this entity is not adequately treated in our present courses in pharmaceutical chemistry. Furthermore,

it is the opinion of many that it cannot be adequately treated there both because of time and, what is more important, the nature of the training and the lack of practical pharmaceutical experience of the instructor. The approach of the pharmaceutical chemists will naturally be (and this is probably desirable) from the viewpoint of pure chemistry and not from the viewpoint of the practicing pharmacist. There is a parallel in medicine to which we may well give some thought. At the turn of the century all medical teachers in the laboratory sciences were required to have had medical training. Today that has changed and instead the teacher is looked for who has not had medical training but greater training in his specialty. In this way greater stress has been placed on the basic medical sciences. The only exception in medicine is in the department of pharmacology where the head of the department must, in addition to his pharmacological training, be a man trained in clinical medicine. This of course is due to the fact that the pharmacologist is the liaison between the laboratory sciences and clinical medicine and in the preparation of practitioners it is essential that pharmacology be presented from the clinical point of view.

3. The general opinion is that what is now called the Pharmacy of Inorganic and Organic substances can be more appropriately named.

4. The general belief is that the material included in the Syllabus under the titles of Advanced Pharmacy I and II should not be included in dispensing since it is basic material which the student should master before he takes up dispensing.

5. It is commonly believed that our courses in dispensing are already too limited for time.

6. Some feel that this basic material could be given in the course in pharmaceutical chemistry or in dispensing if the proper adjustments were made in the courses and if properly qualified instructors could be obtained for such courses. With the increased specialization which is bound to come in pharmacy this selecting of qualified teachers will become an ever increasingly difficult task.

In closing the chairman issues a warning—The great danger ahead of us is the possibility of our becoming opinionated. One may have his convictions deepened without becoming opinionated. Yet the very danger of opinionation has made the chairman of the Problems and Plans Committee select the personnel of the committee from the younger group of well-trained men whose minds are still fluid and who will do their own thinking, and will give expression to it if given the opportunities to do so. There is also danger of following great leaders of earlier generations. Every generation has had its great teachers who have inspired their students with their ideas of what pharmacy is or should be. Because of the respect and affection that these students have for the master they frequently adopt the policy of following in the master's

footsteps without apparently sensing that the master himself in time changes the direction of his course in thought and action.

We may recall the story of Galen who in the second century was the greatest medico-pharmaceutical writer and teacher of his time. So great an idol did he become that for thirteen hundred years the medical student got his only training at the foot stool of the followers of Galen and for thirteen hundred years there was no medical progress. It took Servetus to break the Galenic spell. He dissected a human body and found Galen was wrong and dared to say so. For that John Calvin, the father of my church, (Presbyterian), had Servetus burned at the stake. That was the price Servetus paid because of the bigotry of the followers of Galen, and in order that Vasalius might become the "father of anatomy." Many years ago, Dean F. J. Wulling began to talk about the importance of the "Collective Mind" in our thinking and it has received too little attention in our acting. There is no one mind that can guide the ship of state through many years without wrecking it. There is no one mind that can guide the destinies of pharmaceutical educators through many years in a world that is forever changing. When we find ourselves becoming opinionated it is a sign of senility and we had better pass the rudder control to the collectively thinking mind. The course will be steadier and the passage less tempestuous. As a result of the year's study I make one suggestion of a prophetic nature. It is my opinion that the courses in chemistry, pharmacy and dispensing are in the near future in for drastic overhauling, reshaping and integration to attain a common objective. In my own institution there has been no material change in this respect in three decades. Only in one field have we had a vision and that has to do with the belief that the biological sciences could make a contribution to the practice of pharmacy.

It is my belief that it was not Dean Kendig's thought that the Problems and Plans Committee was to work out the details of a prepharmacy or pharmaceutical curriculum. That is the function of the Syllabus committee which has a glorious history of achievement behind it. Rather did he have in mind that the Problems and Plans Committee, representing a typical cross-section of the best thought in the educational field

should study those problems connected with the development of our teaching program and submit the results of their studies to the Syllabus Committee to be used in its all-important task of curriculum building.

I then recommend that this report representing the thought and activity of the Problems and Plans Committee for the year be submitted to the Syllabus committee to be used in any way that will be helpful to the work of that committee.

Rufus A. Lyman, Chairman

Report of the Delegates to the American Council on Education

The members of the American Council on Education voted by letter ballot not to hold the annual meeting of the Council because of wartime travel difficulties. However, on April 3, 1944, the Council sent out a call for a two-day conference of the official delegates of the constituent members to be held at the Statler Hotel, Washington, D. C., on May 4 and 5, 1944. The conference of constituent representatives was not conceived as a substitute for the annual meeting but as a new development in the Council's program.

The membership of the Council consists of 55 constituent members, 51 associate members and 637 institutional members. Delegates from 51 of the 55 constituent members of the Council were in attendance. The American Association of Colleges of Pharmacy was represented by Dean W. F. Rudd and B. Olive Cole. Dean Rufus A. Lyman was unable to attend.

A handbook of pertinent facts relative to the organization, program and financial support of each constituent member of the Council was prepared in advance and distributed at the conference.

President Zook, in opening the general session on Thursday morning, stated that the general purpose was identical with the objectives of the Council as stated in its constitution—"to advance American education in any or all of its phases

through comprehensive, voluntary, cooperative action . . . ” More specifically the purpose of the conference was to discuss and reach agreement, when possible, on large national issues on which the Council might wish to take a stand, and to discuss and recommend specific ways in which the Council could serve constituent members and could function more actively as an average in securing greater cooperation between and among these members. The President made it clear that any action or recommendations of constituent representatives would not commit the organizations which they represented.

The two issues of national scope selected were: “Is it wise to commit the United States to a year of compulsory military service?” and “How should a federally financed program of education for discharged military personnel operate on the federal, state, and local levels?”

Edmund E. Day sketched the action already taken by the Council in regard to the first issue. Resolutions had been adopted by the Committee on Problems and Plans of the American Council on Education and the Educational Policies Commission of the National Education Association and the American Association of School Administrators. The resolutions were circulated to the entire membership of the Council with a request that the institutional and constituent members of the Council record their views of approval or disapproval. At the time of the conference of constituent members, 330 ballots had been returned and the vote stood at about 10 to 1 in support of the resolutions. After considerable debate, it was voted to confirm the resolutions which had been previously approved by mail ballot by the Council. A show of hands indicated 70 for and 5 opposed to the resolutions. The resolutions follow:

“In our judgment it is unwise to commit the nation at this time to a year of universal military service for the following reasons:

1. **Present Military Necessity:** Under the Selective Service Act, the present personnel needs of the Armed Forces are being met so far as the nation's resources of manpower permit. It therefore follows that the proposed year of compulsory military service is to be conceived in terms of a post-war, not a current, undertaking. No basic change in the present Selective Service System is necessary to provide required military personnel, not only for the period of the war but also for the period immediately following the defeat of our enemies.

2. **Long-time Military Necessity:** Since the proposed year of compulsory military service is not a question of immediate military necessity it must be appraised in long-range terms. In these terms it is clearly impossible at this time to debate fairly and intelligently the question of whether compulsory military service is a national military necessity. No one can foresee the international situation which will exist when Germany and Japan are defeated. Neither the international political nor the international military situation can be calculated while the war is still in progress. Prophecies on this subject and debate thereon at this time may prove detrimental to sound national policy and to the unity of the United Nations.

3. **Policing the Peace:** When the war is over, it may be necessary to maintain a large standing army to police the peace, and this may force us to adopt compulsory military training. No one is in a position now, however, to forecast fully the international responsibilities of the nation after the war, and certainly not the responsibilities that relate to the occupation of foreign territories. Until the post-war national situation is clarified, it seems to us extremely unwise and even dangerous to commit the nation to such a revolutionary change in fundamental national policy as would be the establishment of compulsory military service.

4. **The American Military Tradition:** Our American democratic tradition is strongly set against a large standing army. We, along with the great body of Americans, will support a year of compulsory military service when we are convinced that the safety of the nation requires it. We are unreservedly for adequate preparedness, but we see great dangers in any unnecessary break with our tested democratic tradition respecting compulsory military service in time of peace.

5. **The Opinion of the Young Men Now Fighting the War:** The year of proposed military service, if adopted, will directly affect the children of the men who are now fighting in our armed forces. These men should have a voice in determining the desirability and soundness of compulsory military service. Their opinions cannot, however, be determined until the war is over. This constitutes another strong reason for delaying decision until peace has come.

6. **The Nature of the Peace:** The American people are fighting this war with the high hope that it will eventuate in an enduring peace. We all look for measures of international cooperation which will reduce the necessity for large-scale post-war military establishments. If, against the background of these great expectations, the President of the United States should urge a year of compulsory military training, many Americans will interpret such action as a signal for the return of the cynicism of the 1920's, or as an admission on the part of the President that we shall all continue to live in an armed camp and that the hopes of a more peaceful world are not to be realized."

The conference voted unanimously to recommend that the Council set up a study committee to accumulate data, and in-

sofar as possible at the present time, prepare reports on issues on which a positive declaration of policy in regard to compulsory military and national service could be made, such reports to be presented to constituent members for action when and if the need arises.

At the General Session on Friday morning, Francis J. Brown presented a brief summary of the Council's interest in and the bills then pending in Congress which dealt with the second topic for discussion: How should a federally financed program of education for discharged military personnel operate on the federal, state and local levels? He stated that when the matter reached the legislative stage, in January, 1944, the Council called together two representatives from each of the twenty-one national educational associations. After considerable study, the Conference of Twenty-one unanimously adopted a statement of principles for discharged military personnel. These principles continually emphasized that appropriate existing educational agencies should be utilized in the administration of the program.

The conference of constituent members considered the status of the bills then before Congress, and after rather extensive discussion of the provisions of the individual bills, the following statement was adopted by the conference:

"Representatives of fifty national organizations concerned with education on all levels, both public and private, met today (May 5, 1944) in Washington at the call of the American Council on Education. The pending legislation in Congress providing for the education of returning veterans was considered at length. The following statement was adopted unanimously:

1. The conference wishes to affirm its deep conviction in the wisdom of the traditional policy which reserves control of education to the states and localities, prudently left there, by the Constitution of the United States.
2. We are in agreement with the general purposes of the Clark Omnibus Bill recently passed by the Senate and the Rankin Omnibus Bill now before the House of Representatives. But the educational provisions of these bills violate this essential and fundamental principle of our form of government by setting up federal bureaucratic control in education.
3. We believe that the educational provisions of the Clark and Rankin Bills present the most serious threat to the existing state and local control of education that has yet appeared in this country.

4. We hold that if this menace to state and local control of education is to be defeated *immediate action* is needed on the part of all who oppose this invasion of states' rights by federal agencies. To be effective such action must be taken before May 10th on which date it is reported that the House of Representatives will vote on this legislation.
5. The Barden Bill, H. R. 3846, now before the House of Representatives, provides for state advisory committees, state selection of institutions, administration through state educational agencies, state counseling services for returning veterans, and the use of existing agencies and institutions. These provisions assure that existing facilities will be used under the direction of the several states, thereby providing greater educational benefits and services to returning veterans than would be possible under Federal Bureaucratic Control. We therefore urge that the Barden Bill should be adopted. As an alternative we urge that the Rankin (H. R. 4357) and Clark (S. 1767) Bills be amended by striking out Title II, Chapter IV, "Education for Veterans," and substituting therefor the provisions of the Barden Bill.

This resolution was sent to the governors of all the states and to prominent lay leaders by telegraph. It was also distributed by mail to all members of Congress, to all state departments of education, as well as to the members of the Council. A substantial reaction was received, but Congress passed the G. I. Bill (S. 1767) without major changes.

Thursday afternoon was devoted to section meetings, at which the following topics were discussed:

- "The Implications for Civilian Education of Wartime Educational Experiences."
- "Changes in Professional Education and their Implications for Pre-professional Education."
- "Resources of Organizations Sponsoring Educational Programs."
- "The Relation of Religion and Education."
- "Development and Problems in International Cooperation in Educational and Cultural Matters."

The final session of the conferences was devoted, for the most part, to the reports of the auditors of the five section meetings, and the presentation of the recommendations or suggestions drawn up by the section meetings for the consideration of the conference. It is impossible to report on the five section meetings, but in connection with the first topic considered, it was agreed that wartime educational experiences do have implications for higher education, that insofar

as possible, it is advisable to have more emphasis upon immediate objectives, more emphasis upon classification and evaluation of the work of our colleges and universities; and that curricula should be examined to determine what adaptations are needed to meet new conditions.

It was voted that the conference recommend that the Council, through a committee or committees, make provision for the continuing study of, and report on, the implications for civilian education of wartime educational experience.

One is impressed with the scope of the work carried on by the American Council on Education. In addition to the work of the Executive Committee of the Council, there are some thirty standing committees. In connection with the work of the Committee on Relationships of Higher Education to the Federal Government, two issues of the bulletin "Higher Education and National Defense" have recently been distributed. In connection with the Committee on Accrediting Procedures, a new statement "College Credit for Military Experience and for Experience in Civilian Activities Related to the War" will soon be issued. "A Guide to the Evaluation of Educational Experience in the Armed Services" has been announced to the colleges, and the first seven of the public forms of the tests of the U. S. Armed Forces Institute as published by the Cooperative Test Service of the Council have been distributed. The other standing committees include:

- Cooperative Study in General Education.
- Education of Minority Groups.
- Educational Research.
- Government and Educational Finance.
- Commission on Motion Pictures in Education.
- International Education and Cultural Relations.
- Inter-American Schools Service.
- Financial Aid to Schools in Latin America.
- Religion and Education.
- Inter-Group Relations.
- Manual on University and College Business.
- Organization and Administration.
- Measurement and Guidance.
- Youth Problems.
- Survey of Business Education.
- Commission on Teacher Education.

Archibald MacLeish, Librarian of Congress, was the dinner speaker on Thursday evening. He had just returned from

England where he was sent as a delegate to collaborate with the so-called Conference of Allied Ministers of Education, an organization under British sponsorship, which had been studying the purchase of current books which had not been available to libraries in occupied countries, studying the needs of schools for materials, studying the problem of publishing textbooks, of securing scientific apparatus, questions of personnel, *etc.* He gave a report on three general subjects. The first—the plan for a united national organization in the field of education and international cultural relations. The second—an aspect of that project which has to do with libraries. The third—an aspect of it which has to do with the so-called restitution of pillaged works of art.

Mr. MacLeish stated that there were three major problems—the problem of prevention of injury to monuments of art, and to great collections; the prevention of injury from our own bombing and our own military action, as well as from the billeting of troops. Second, the problem of what is to be done to protect material of that kind as you move into liberated areas in Europe. Third, the question of restitution—how are you going to restore material which has been stolen, carried into Germany or elsewhere.

A form of constitution was worked out, which was accepted informally without reservations by seventeen governments, the functions of the proposed organization to begin with the the most urgent: first, setting up an emergency system which will get children back into schools as soon as the Allied territories are liberated; second, working out a longer-range program for educational reconstruction, trying to estimate the needs for material, the physical needs, the personnel needs, and so forth; third, providing a system of world circulation of library materials, by means of the extension on a world basis of the present practice of inter-library loan of materials either in original or photo copy.

In closing the conference President Zook stated that he considered this, the first meeting of the constituent members of the American Council on Education, had been a pronounced success and that out of deliberations of this kind will come concerted action on many issues—agreements which truly represent the opinion of the whole of American education. This will necessarily mean a more active program on the part

of the American Council on Education, a fulfillment of the original intent of the founders, with beneficial results for education in this country.

B. Olive Cole

Report of the Committee on Educational and Membership Standards

The historic affirmation of the intentions of this American Association of Colleges of Pharmacy to uphold the standards of pharmaceutical education, backed up by the favorable action of the National Association of Boards of Pharmacy, by the National Association of Retail Druggists, and by the American Pharmaceutical Association itself was a bold step. The occasion becomes all the more memorable as you will recall the appearance before our assembly at Columbus of Mr. Carl Kelley, an official representative from our Student Branches, who plead the students' cause for quality of education against reduction of time and reduction of standards. The remarks and actions of that meeting have reverberated around the world, and they have reverberated only credit and prestige to the profession of American pharmacy. On that day the decision was made for many of our most promising men in the field of pharmaceutical education, both young and old, to once more take up the battle for their profession which otherwise they might have forsaken in disgust and in despair. On that day our gallant boys in service were assured of what they will return to when this bloody business of war is done.

Because of this trust and favorable actions, however, it behooves our association to come forth with some precise and definite statements which will justify and keep this faith. It behooves us also to take definite action in adjusting and maintaining our standards so that we can look with confidence and pride on the standards and activities of every college listed as a member of our association. Frankly, this was the problem which the Committee on Educational and Membership Standards proposed to attack. They have started a good work, which we trust will be carried forward through the coming

years with such fortitude and pressure that it must prevail in the end.

The original idea of action which was suggested by the members of this committee was the proposal to proceed with the grim business of studying the entire list of qualifications for membership in the association and how they are being applied. Let there be no doubt in your minds but that it was provoked by the humiliations heaped upon our profession by the times. Refusals to grant deferment programs accorded to others, failure to recognize the ability of our graduates with suitable commissions and subsequent assignment of registered pharmacists to unwholesome tasks, while at the same time special training programs were established to turn out in a few weeks just anyone to take a pharmacist's job. These are but a few of the things we have contended with. Add to this the incidents comparable to the "false" interpretation of the memoranda from Selective Service whereby several of our colleges took it upon themselves to offer a degree in less than thirty-two months, thus flaunting our standards and ignoring our regulations and you have the general idea of why this committee is aroused. It has brought to us the stark realization that we have been pestered because we had it coming. It has brought to us, also, the realization of how weak we really are in spots, and it has brought to us especially, the realization that we are all going to be judged by the poorest of our group both educationally and professionally. Our committee knows this is true, everyone of you in this assembly knows that it is true, and certainly our executive groups are very keenly cognizant of these things, for they have been subjected to the stinging criticism that some of the Association colleges are unworthy of their existence, and that many of our drug stores are even worse. It was because of these things along with others, that our requests to the armed forces received no more sympathetic consideration than they got.

Realizing the scope of undertaking a survey so comprehensive as studying all the qualifications for membership, your committee on this occasion has decided to limit its attention to one of the most generally controversial sections of our By-Laws, namely, Section 7c, which states as follows: "Not less than three years of residence study in a college of

pharmacy shall be required for the completion of the requirements for the Bachelor of Science in Pharmacy degree." What the committee wanted to know about this By-law were four things, namely, (1) what is the correct meaning or interpretation of the statement "three years of residence study;" (2) is the requirement justifiable; (3) is the requirement being lived up to, and (4) what steps shall we take to insure uniform observance of this requirement by the member colleges.

Your committee worked diligently to answer these questions, and sounded out not only its own membership opinions, but likewise sought the advice of other administrators and state board members. The concurrence of opinion in this regard was so overwhelmingly agreed, that your committee has no hesitancy in presenting the issue for the consideration and action of this assembly. The following discussion is not original with the chairman, but is chiefly a summary of the ideas expressed by the committee personnel and others in answer to requests for opinions on the above-mentioned questions. These interpretations are stated herewith, together with the relevant discussions which were received.

In regard to the questions concerning interpretations of the statements contained in our By-laws, Article I, Sections 7b and 7c which state respectively: "Students transferring from an accredited non-pharmacy college may be admitted to advanced standing without examination and be given credit for the work completed in the general cultural or foundational subjects of the pharmacy curriculum," and "Not less than three years of residence study in a college of pharmacy shall be required for the completion of the requirements for the Bachelor of Science in Pharmacy degree," it is the opinion of this committee that these statements are intended to mean that credit for general cultural or foundational subjects should be allowed, *for not to exceed one year*, that not less than nine quarters or its equivalent in semesters of time shall be devoted to residence study by all students who enter pharmacy with advanced standing from non-pharmacy colleges, and finally that each quarter or semester of this time these students shall carry *a full academic schedule of courses as required by their respective institutions*. The committee unanimously recommends that this body officially endorse these in-

terpretations of Article I, Sections 7b and 7c of our By-laws so that hereafter there can at least be no misunderstanding as to what is expected of our membership in this respect. Specific recommendations for amendments to our By-laws are contained in this report which cover these points of interest.

In order that this assembly may hear the sentiments provoking this recommendation the chairman has taken occasion to include in this report the statements of some of our finest thinkers in pharmaceutical education. Modesty forbids mentioning their names, but their epoch statements should become a matter of historic record.

1. "Through the years of my experience, I have come to the definite conclusion that a man could not get into the spirit of pharmacy, or get the pharmaceutical slant with any less contact than he would get in three years of full registration in a good college of pharmacy. The three year minimum requirement lost us some friends, but above all it gained us the respect of all those men who knew what were the objectives of good pharmaceutical training."

2. "I am not surprised to have you say that this three year minimum requirement is not being lived up to by all of our colleges, and I have it from the top authorities there are some of our colleges that are not living up to the other membership requirements of our association. So many things are being done under the excuse of war emergency that we are apt to tune our conscience at a lower level. The danger of this is that when the war is over they will say that if we got along fine during the war on this level, it can be done just as well after the war. There is a great danger in winking at any of our requirements just now. There are powerful influences closely scrutinizing our policies for any privileges being enjoyed now which might be taken advantage of after the war. Your Committee is doing a good piece of work by studying any irregularities that are being practiced and reporting them at the annual meeting together with recommendations you wish to make."

3. "The subject (of the three year minimum requirement) which we have chosen for study is one which has many angles and apparently all are justifiable. It is true that schools which adhere to the strict interpretation of the rule (three years in residence study carrying a full course load) often lose students to schools which do not interpret the regulation as they should. We have had many cases of this kind."

4. "My personal feeling for the individual who has much credit to offer takes hold sometimes and I wonder if the three-year rule is good. Then I get a sense of pride in pharmacy and say, 'If this student now wants to get our degree in a year or two at the most, will he make a good, loyal pharmacist? Will he appreciate our degree if he can so readily and briefly acquire it? Surely, he is getting our degree because no other will suffice for what he has in mind.' Therefore it becomes a dollars and cents problem and usually little feeling, or loyalty, or spirit of the degree is attached to it. This man will probably block out a good pharmacist who has really studied pharmacy and is sincere and loyal to

the profession. Therefore why should we make it easy for anyone to get our degree? I usually wind up by agreeing that the three-year rule is good. If we want to make the three-year binding and obligatory, I would suggest something of this nature. Article I, Section 8c (2) "Not less than sixty percent of the total number of hours in the curriculum shall be professional and applied subjects directly related to the pharmaceutical curriculum and these must be given over a period of not less than three years after or partially concurrent with the remaining forty percent of the number of hours which shall be of a fundamental or cultural nature."

5. "Now as to the question of tightening up on advanced credit and the proper interpretation of the three-year rule: For a long time I have felt strongly on this matter. I have found as you have, that it is being disregarded in other cases and in other places. I feel that the rule requiring full three years in a college of pharmacy is a good one, and should be adhered to in all cases. I feel that we should, as a committee, attempt to put teeth into this section of the By-Laws."

6. "It is my opinion that in order to become thoroughly orientated to any profession that a minimum of three years and preferably four, is necessary for a full understanding of its history, its ethics, and its future possibilities."

7. "If the present condition prevails for a much longer time our college may be one of those forced to close its doors, but I would prefer this latter action than to do anything to lower the standards of pharmaceutical education. In fact, I believe that this is the time to plan on raising the standards so that we will be protected against a too great influx of undesirables after the war. I agree with those who argue that many problems such as scheduling difficulties, course sequences, and pre-requisites will result, but again I repeat, those will be the headaches of the administrators and just because they are 'headaches' is no justification for side-tracking them if they are for the best interest of pharmaceutical education."

8. "I was glad to receive your letter and to know that your committee is giving consideration to certain facts relative to Article I of our By-Laws. I frankly confess that sections (b) and (c) of Section 7, Article I, have troubled me at various times, and I know that others are not satisfied as it stands. When a student transfers from a non-pharmacy course to the pharmacy college, time factor alone is no assurance of good training. Unless the transfer completes all the professional courses in logical sequence, and unless he is given the scientific and professional background of the profession, he is not receiving proper training. We are obligated to give them a minimum of three years of full training, and I hope this can be made effective for all schools."

9. "The question which you wish to bring up concerning the minimum three-year requirement for all students entering our colleges is very controversial. Personally, I am not in favor of requiring all students to matriculate in the pharmacy school for three years. Despite this opinion our school has rigidly adhered to the regulation requiring

all students with advanced standing to spend three years in the school of pharmacy, carrying a full load of not less than twelve hours, and not more than nineteen per semester. We will not enroll a student who is working for a degree for less than twelve semester hours."

Reflected in the foregoing statements is the very essence of what will make pharmaceutical education great. Administrators, industry and practicing pharmacists have indicated their belief in good sound pharmaceutical educational practices. Here is an administrator ready to declare his school inactive for the duration of the war, if the need be, rather than do anything to lower the standards of his profession. Another able administrator despite his adverse opinion is rigidly abiding by the rules of the association of which his school is a member and has no thought but to support its laudable undertakings. There are undoubtedly other schools which could well afford to take advantage of these suggestions and thus gain prestige and avoid much criticism.

In final analysis of this matter the Committee of Educational and Membership Standards is fully aware of its responsibility to this association. The time is at hand to consider shaping our curricula and educational standards in the direction of the proposed fifth year of pharmaceutical education. Our professional offerings should be increased proportionately, all the while being certain to retain our essential cultural and foundational instruction balance. This is the time to move ahead in anticipation of the things that are in store for us in the future. The definition and observance of this three-year minimum requirement, and the subsequent bolstering of our pharmaceutical educational offerings in order for our students to take the fullest advantage of it is a step in that direction.

The inclination to avoid this issue and thus allow institutions to do just about as they see fit looks fine until you discover students "shopping around" our membership, finally to refuse entering schools which adhere to the intended letter of the By-laws, only to matriculate in other colleges which have agreed to grant them the exact considerations which the more conscientious institutions would not read into the transaction. Then it becomes a serious matter, one that breeds dissatisfaction and distrust, and one that divides our membership against itself. This committee proposes to attack these problems one at a time until they are satisfactorily settled. We respectfully

recommend to this association for your consideration and favorable action these amendments to our By-laws, Article I, Sections 7b and 7c to make them read as follows:

Article I, Section 7b: Be amended to read: "Students transferring from an accredited non-pharmacy college may be admitted to advanced standing without examination and be given credit, *for not to exceed one year*, for the work completed in the general cultural or foundational subjects of the pharmacy curriculum."

Article I, Section 7c: Be amended to read: "In pursuance of Article I, Section 7b, not less than three years of residence study while registered as a full-time student of pharmacy in an accredited college of pharmacy shall be required for the completion of the requirements for the degree of Bachelor of Science in Pharmacy."

L. David Hiner, Chairman

Report of Committee on Pharmaceutical Research American Association of Colleges of Pharmacy September, 1944

This committee was instituted by the association last year upon the recommendation of President Newton. The reasons behind the suggestion are given in detail in his address, but the gist of them may be stated briefly. Most of the really important contributions to materia medica, medicine, and pharmacy during the past fifty years have emanated from others than those in our schools of pharmacy. Insulin, sulfa drugs, vitamins, and hormones are but a few instances of such discoveries. Indeed, one can find in the literature under the names of our individual faculty members very few important and worthwhile reports. On the other hand, we undoubtedly have many able men in our ranks, some perhaps who have never attempted to contribute. It would seem possible to stimulate, inspire, guide, and coordinate their efforts so that, at the least, there would be a greater likelihood of doing something that might redound to our credit.

The committee was willing to recognize at the outset that (1) it should be possible to improve the character and extent of research in our member colleges and (2) the prestige of the schools and of the profession would be increased by mak-

ing such improvement. In the absence of any other suggestions or information as to our functions, therefore, we laid down as the single objective: to devise an arrangement whereby the individual and collective efforts at research in our schools could be stimulated, directed, and coordinated toward a goal of highest quality. We realized that the formulation of such a program might require considerable time and that it might be several years before this could be put into efficient operation. But, with nothing to lose and possibly much to gain, this did not appear to be a great disadvantage.

In considering the necessary factors that could influence the ease with which our objective could be reached, we visualized two essentials: (1) a directing body and (2) adequate contacts with the sources of demand. Since the work must be guided by some individual or group, and since no suggestions have been made of one individual who could qualify for the important task, we feel that such direction for the time being should be by this standing committee, whatever its future personnel. It would be the aim also to advertise ourselves as the coordinating body between faculty members doing research and any others who are interested. Lest some might think there could thus be interference with established programs of high-class research in certain schools, let us here note that we have no intention whatever of dictating or interfering; our sole purpose is to stimulate, inspire, and advise.

Secondly, the program cannot be successful unless the committee is intimately in touch with all important demands and problems. It is hoped that this committee, or perhaps a future individual director, will ultimately be well known as such a liaison agent, and that this will bring to us ample information on what most needs investigation. This information must come primarily from the sources of demand: (1) the revision committees of the Pharmacopœia and Formulary; (2) the pharmaceutical manufacturers; (3) the practitioner of medicine; (4) the pharmacist; and others. The first two can be contacted by correspondence and this has already been done in part. As for the other groups, it is expected that in time physicians, pharmacists and others will come to know about our program and will increasingly submit their problems. In the meantime, we trust the dean of each school will note the task we have undertaken and ask

the members of his staff to transmit whatever information they may receive along this line.

It seemed obvious at the start that we ought to know first who on our faculties are available, because they are the ones who must perform any future research or at least direct it. For that reason, a letter was sent to each dean asking for the names of the research-minded on the present faculties, together with a list of their past publications and of their present efforts. The replies, although somewhat slow in coming in, indicated a splendid spirit of cooperation. We now have on file a card index of about 250 persons, most of whom have made at least a few contributions. Two schools have not yet replied and, in the absence of such return, one must conclude that no one there is research-minded or has published anything.

It would accomplish very little to record here the details in a critical survey of this file, but two of them might be noted. (1) The majority, as might have been expected, are younger and apparently untried, which could be a great asset in an attempt at coordination. Very few of the older ones have reported research without intermission and some of them have been quite irregular. (2) The quality, as judged by a careful reading of most papers, has not been very impressive on the whole, although the contributions of some have been of the highest class. It must be emphasized, however, that this represents only the chairman's opinion, since other members of the committee have had no opportunity to study the files. Altogether, the chairman believes that we have an excellent nucleus for coordinated effort and that our primary objective could undoubtedly be realized.

Plans have been drawn to complete the roster of available workers and extend its information. Before long the index should tell us: the experience and training of each; the willingness to undertake new investigations; the field in which he is most competent; the equipment and supplies he has available; the amount of time he can devote to a problem; and the amount of help at his disposal in the way of graduate students or research assistants.

The tentative plans for handling the operations are very simple. As fast as subjects for investigation come in, they

will be recorded and at periodic intervals the titles will be published in the Journal. Those purposing to undertake the work on any item will be requested to notify the chairman or director, thus recording the fact and preventing duplication of effort. For important topics with no immediate volunteers, the committee will endeavor to enlist some one, keeping in mind that in the near future we should have each college doing its share in cooperation. Some will undoubtedly wish to continue as in the past investigating problems of their own contriving. We certainly do not wish to interfere; on the contrary, such a method is greatly to be desired, but we hope that each such undertaking will be a matter of record in our files.

In order that this program will be most effective, it is necessary that the administering officers of our schools give their whole-hearted cooperation as far as this is possible. This statement is made in all seriousness and the committee expects all of you to receive it in the same manner. The reasons for it will be apparent after a consideration of the factors that we think are necessary for promotion of efficient research.

(1) There must be on the staff adequately trained teachers or other persons who are competent to conceive and carry out a program of research. Our files show that in some cases this is not true, and we urge the deans to give the matter very serious consideration. Our prime purpose as educators is to teach, and it is conceivable that a given person can instruct well without doing any research if he keeps in touch with what is going on. However, we maintain that the student receives much better instruction if the teacher is actually performing some investigation, even if only small; he is thus able to give appreciative value to what he reads. Furthermore, if schools of pharmacy are to appear in the research picture of the world tomorrow, there must be considerable strengthening of the staff.

(2) There should be available the proper equipment and facilities. This does not necessarily mean a large outlay for apparatus and working space, but it does mean that whatever is necessary be placed at the worker's disposal.

(3) There should be allotted enough time free from teaching duties. Undoubtedly the failure to do this has been the greatest single factor in preventing a good quality and quantity of research. Many of the letters received from the deans pointed to this most clearly. If we insist on occupying most of a man's time with teaching duties, his instructional efficiency is most certainly impaired. We should arrange

that every instructor who is at all inclined to investigate is given enough time to do so.

(4) There should be a definite program of research at each institution. We hope that our committee can assist to some extent, but we also urge the staff to make some long-range plan and to meet regularly for discussion of results obtained and of the published work of others.

(5) There should be made available for graduate students at least a minimum of assistantships, fellowships, or scholarships. Of course, many of our member colleges have at present no post-graduate curriculum but, if the faculty is well enough trained, there is no reason why one could not be put into operation.

(6) There must be available an adequate library. Just how extensive this should be depends on the nature of the problem being investigated. Modern photostat and microfilm service has reduced the requirements, but the worker must have enough library at hand to show him what he wants in the way of this service.

(7) Finally, it would be very helpful if each individual could acquire the real spirit and attractiveness of research. Too many are entirely commercially-minded and have little patience with the painstaking detail necessary in an investigation for which they can see no monetary return. However, it is our opinion that the majority of teachers will become quite enthusiastic once they have successfully completed one or two pieces of work.

In conclusion, we wish to call your attention to the status of post-graduate instruction. Obviously the quantity and also quality of research in a school could be increased by establishing such a curriculum or improving one already in existence. We have, therefore, looked into the matter by examining the latest catalogue of each member institution. Of the 59 in this country, 28 lay no claim to offering any graduate courses and give no advanced degrees. Some of these, of course, could not do so without enlarging or improving the faculty. We believe these institutions should give careful consideration to the possibility of initiating some kind of graduate program. Of the other 31, 16 offer the master's degree only and describe courses of instruction for this purpose. One of this group, however, awards a master of pharmacy degree for an appropriate thesis not less than five years after graduation. There are 12 schools where both master's and doctor's degrees are offered. The remaining 3 present graduate courses but mention no degrees.

One of the most striking results gained from perusing the catalogues is the observation that there is such a marked difference in requirements for advanced degrees. Some give no

specific ones, and it is reasonable to suppose that candidates are seldom or never available. In the other cases, anywhere from 4 to 34 organized and unorganized courses are offered, and the variety of titles is very great. Some of these titles might be classed as entirely elementary.

While we do not believe that this matter is a function of our committee, yet it should be studied further. We ought to be assured that those to whom we give advanced degrees are trained just as adequately as is possible for the role they may be called on to play in industry and in teaching. Research directors in our manufacturing plants have indicated to us that they have very definite ideas on what they expect in men from our graduate schools, and we should find out what they are and develop a program accordingly. Possibly the syllabus committee should be requested to make the necessary study and bring in recommendations.

E. V. Lynn, Chairman

Report of American Association of Colleges of Pharmacy Representatives to the American Foundation for Pharmaceutical Education

We are pleased to report to you that the American Foundation for Pharmaceutical Education is now fully organized and, as you all know, in full operation.

Its objectives have been presented to you at annual meetings on more than one occasion and printed in the *American Journal of Pharmaceutical Education* and other pharmaceutical publications as well. They need not be repeated here.

At the annual meeting of the Foundation, held in New York City on April 4, 1944, there were some changes made in the membership which I might briefly report to you, or perhaps still better, give you the present membership.

The present officers and directors of the Foundation are as follows:

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George V. Doerr, President.....	N. W. D. A.
C. S. Beardsley, Vice-President.....	Prop. Assoc.
E. L. Newcomb, Secretary.....	
S. B. Penick, Sr., Treasurer.....	A. D. M. A.
Hugh P. Beirne.....	N. A. R. D.
B. V. Christensen.....	A. A. C. P.
Joseph J. Dreyer.....	F. W. D. A.
H. Evert Kendig.....	A. A. C. P.
Ernest Little.....	A. A. C. P.
Robert L. Swain.....	N. A. B. P.
George A. Moulton.....	A. Ph. A.
F. A. Lawson.....	A. Ph. M. A.
Fred Griffiths.....	N. A. C. D. S.
James F. Hoge, Counsel.....	

The membership of the Board of Grants is as follows:

Guy Stanton Ford, Secretary of the American Historical Association.

William Mather Lewis, President of Lafayette College
 Charles J. Lynn, Vice-President of Eli Lilly and Company
 Gilbert Wilcox Mead, President of Washington College
 Edward S. Rogers, Chairman of the Board of Sterling Drugs, Inc.

The Foundation has been singularly fortunate in obtaining men of high purpose, whose integrity and ability is acknowledged by all who know them, to act as members of its Board of Grants. We may feel assured that the grants of the Foundation will be made as wisely as it is possible for human beings to operate.

During the less than two years of its existence, the Foundation has made two surveys of our colleges of pharmacy in respect to their financial condition.

Of the 64 accredited colleges contacted, 17 indicated that they would need financial help for the college year 1943-1944. Forty-one colleges replied that no financial help would be needed, at least until the fall of 1944, and six schools failed to reply.

The 17 schools requesting aid indicated a need of \$203,000 to compensate for lack of funds and balance budgets. The Board of Directors made \$100,000 available to the Board of Grants for this purpose. After reviewing the various requests, the Board of Grants made appropriations totaling about \$60,000. I give you this information to indicate how

carefully everyone involved is attempting to utilize the funds of the Foundation.

During 1943 the Foundation, upon recommendation of the A.A.C.P., appropriated \$26,000 for two \$200 scholarships to each of the 64 accredited colleges. In 1944 the Foundation repeated this gift, thus continuing the 128 scholarships which were begun the previous year.

The Foundation has started conservatively but it has tried to function well. To date, with no high pressure campaign for funds, it has collected about a half-million dollars. The Board of Directors are considering the advisability of starting a drive for \$5,000,000. The income from which, amounting to about \$150,000 a year, could be judiciously used for the purposes set forth in the By-laws of the Foundation.

Other grants will be forthcoming, not only to strengthen undergraduate work in approved colleges of pharmacy, but for graduate work and for research fellowships as well.

The Foundation has leaned heavily and will continue to depend upon the A.A.C.P. for advice concerning many of its problems and responsibilities. That advice has, of course, been willingly given. In April the Executive Committee of the A.A.C.P. and the Board of Directors of the Foundation held a joint meeting in New York which proved most helpful to the Foundation.

It is the opinion of your representatives that the American Foundation for Pharmaceutical Education can be made to develop into one of the most useful agencies in the field of pharmacy.

If we lend a helping hand whenever possible and never hesitate to offer straight-forward constructive criticism, whether it be favorable or unfavorable, I have little doubt as to its future development and usefulness. If we assume an indifferent attitude, or permit ourselves to engage in criticism of a destructive variety we will be doing our full share toward killing an agency which shows promise of developing into one of our most useful pharmaceutical organizations.

Your representatives do not always agree with or consent to, all the various suggestions which are brought before the

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governing body of the Foundation. On such occasions frank discussions lead to the solution which seems best for the profession of pharmacy.

Many times we have heard the justified complaint that sizable funds, made in the field of pharmaceutical manufacturing, were contributed to medical and other branches of education, whereas very little was made available for pharmaceutical education. We now have the setup to accomplish this end. May we be given the wisdom to promote it in every possible way.

Ernest Little

Report of the Representatives to the Druggists' Research Bureau

The Druggists' Research Bureau is jointly directed by representatives of the American Association of Colleges of Pharmacy, the National Association of Retail Druggists, the National Wholesale Druggists' Association, the Federal Wholesale Druggists' Association, and the National Association of Chain Drug Stores. The representatives of the National Wholesale Druggists' Association include both manufacturers and wholesalers.

The officers of the Druggists' Bureau are John W. Dargavel, chairman; E. L. Newcomb, secretary, and Leo A. Lanigan, treasurer.

During the past year the Directing Committee held one meeting in Chicago, July 10 at the office of the chairman to consider activities that the Druggists' Research Bureau could undertake that would be helpful to pharmacy proprietors in post-war planning.

One suggestion was a program on modernizing retail pharmacies; another is to undertake additional scientific research on costs of supplying the various kinds of service and merchandise that are customarily offered in retail pharmacies.

Some members of the Directing Committee favor the first suggestion; others the second; still others believe that there are enough post-war problems facing retail pharmacy proprietors to justify the Druggists' Research Bureau in undertaking a program of activities in both of these directions.

No decision was made as to whether either or both of these programs should be undertaken at the July 10 meeting. Secretary Newcomb has scheduled another meeting for further discussion of the subject at Chairman Dargavel's office in Chicago, September 12.

Paul C. Olsen, Chairman

Report of the Committee on Predictive and Achievement Tests

The report given last year at the Columbus meeting recommended that the testing program be discontinued for the duration of the war, because of uncertain college enrollments, rush of accelerated courses, and loss of many students before completion of degree work. The Association apparently accepted this recommendation when it accepted the report of the committee. Following the 1943 meeting of the Association the chairmanship of the committee was transferred to another member and two new members were appointed by President Goodrich. The change in chairman was probably unfortunate because from November, 1943, through April, 1944, the new chairman was required to take on special duties to tide over an emergency in his home state, duties which left no time for other activities, and so the affairs of the committee laid dormant until spring.

You may recall that the testing program provided for predictive or aptitude tests for freshman classes of selected schools and colleges over four consecutive years followed by achievement tests for these same groups at the conclusion of their senior year. Correlations from the scores on the two tests were expected to measure the validity of the predictive test and provide other information of value to pharmaceutical educators. If the validity of the predictive tests could be es-

tablished, these tests would then be available to measure probability of success for students entering upon the study of pharmacy.

Before the testing program was tabled, aptitude tests had been given for four years to freshman groups in eleven participating schools or colleges and the achievement tests had been given to part of one senior group which had taken the aptitude test as freshmen. As pointed out in the report for 1942-43, the scores on the achievement tests could not be considered reliable because of the uncooperative attitude generally shown by those writing the examination.

The achievement tests were prepared by members of the committee who were under pressure of accelerated courses and heavy teaching loads. Also acceleration brought up the first group for achievement tests as much as seven months in advance of the time set in the testing program and so the preparation of these tests was hurried.

It was obvious to the present committee that the program of testing could not be resumed until pharmaceutical education had returned to normal and so the committee decided to devote its time to readying plans and making arrangements for a new testing program to be put in effect as soon as possible after the end of the war. Some months were required to obtain transfer of the committee files and records to the new chairman and for him, in turn, to make an intelligent appraisal of this voluminous material. Two general letters have gone from the chairman to the committee members, the last under date of July 21, 1944. At the moment it is agreed that no additional attention need be paid to the aptitude (predictive) tests, but there are many other problems requiring attention. The following are on the present agenda of the committee:

1. Reduction in length of each of the four parts (pharmacy, chemistry, pharmacognosy, biology) of the achievement test to allow each to be written in a maximum of 90 minutes, thus reducing to one day the time (six hours) required to write the entire test. Each part of the present test was constructed to require a maximum of three hours or a total of twelve hours (two days) for the entire test.
2. Reappraisal of the present achievement test. As pointed out earlier the test was prepared in the face of acceleration and under war-time stress. Some parts are too comprehensive for the time allotted to

them and will have to be reduced in length. All will have to be reduced in length by at least one-half the material if the total test time is shortened to one day of six hours.

3. The scope of the material in the achievement test may need adjustment. At present it is limited to material in the U. S. P., N. F., and the Pharmaceutical Syllabus.

4. The achievement test on biology includes questions on zoology. In some schools zoology or related courses are optional for the student. It has been suggested that the biology test be revised to eliminate specific application to zoology.

5. A disappointingly large number of senior students who took the achievement test in 1942-43 made no conscientious effort on them and it is conceivable that the same attitude will be in evidence during peace times. Therefore there must be worked out a plan for incorporating the scores on these tests with the regular senior grades used by the individual colleges as a basis for graduation if the achievement test is to have any significance in the testing program. In other words there must be compulsion on the student to make an honest effort in writing the test.

6. Although the original testing program called for participation by fifteen schools, only eleven have taken part thus far, and all of the participating schools are in the middle west and east. The committee has under consideration an increase in the number of schools, probably by adding schools from the western part of the United States.

7. The method of correlating scores on predictive tests with those on the achievement tests remains to be worked out. For that phase of the program we will have to consult statisticians, psychometrists, and other specialists in the field of educational research.

The above problems are receiving the attention of this committee at the present time. Others will appear as the program develops. From time to time the committee will seek advice and assistance from members of the Association and other interested persons. We are confident of their co-operation.

The annual report of Secretary-Treasurer Eidsmoe included a statement on the condition of the committee funds. Expenditures during the past year have been negligible.

This brief report should convince the most skeptical that there is much work to be done before the testing program is resumed. Therefore the committee recommends to the American Association of Colleges of Pharmacy that the Committee on Predictive and Achievement Tests be continued.

Charles V. Netz, Chairman

Report of the War Emergency Advisory Committee

A review of the activities of the War Emergency Committee up to the latter part of January, 1944, was prepared by the chairman and published in the January number of the *Journal*. Therefore, this report is limited in its scope to the period beginning February 1, 1944, and ending as of today.

Selective Service regulations with respect to the drafting of pharmacy students at the time the review was prepared, were such that only able-bodied male students who could graduate on or before July 1, 1944, were eligible for deferment. There has been no change in these regulations in the months which have intervened and student enrollment in the colleges of pharmacy has continued to decrease.

On April 22, the chairman of your committee attended a meeting of the War Activities Committee of the American Pharmaceutical Association. At this meeting, various phases of pharmaceutical service in relation to the war were discussed. After considering the problem of personnel, including pharmacy students, in the light of all available statistics, it was decided that it would be inadvisable for the committee to make any immediate attempt to alter the situation.

Shortly after the middle of June, your chairman's attention was called to a bill, H. R. 5027, which had been introduced in the House of Representatives by Congressman Miller of Missouri, and which provided for the deferment, under the Selective Training and Service Act of 1940, of not less than 6000 medical students each calendar year. After examining a copy of the bill, the thought occurred to me that there might be a possibility of having it amended to include a provision for the deferment of some pharmacy students. Acting upon the impulse of this thought, Dr. Kelly of the War Activities Committee of the American Pharmaceutical Association and the chairman of your committee, immediately set out to explore this possibility. Officials of Selective Service were visited and we were informed that the bill would be strenuously opposed by them. We were also told by certain Congressmen that there was little possibility of the bill passing

and that any amendment to extend deferment to students other than medical students would be certain to kill the bill. One of these Congressmen, however, showed us a resolution, H. RES. 592, introduced in the House of Representatives by Congressman McCormack on June 12, which he believed offered possibilities for relief to the colleges of pharmacy.

This resolution provides that the Committee on Education of the House be directed to make a study of the effect upon colleges and universities throughout the United States of (1) reduction in enrollment and faculties as a result of service by students and faculty members in the armed forces of the United States, or in other war activities, and (2) recent curtailment and prospective further curtailment of Army and Navy training programs in such colleges and universities; with a view to determining means by which such effects may be alleviated and to formulate as soon as practical for consideration by the House, such legislation as the Committee deems appropriate for the purpose of alleviating such effects.

This Congressman also stated that if hearings were held on the Resolution, he would arrange to have pharmacy's representatives heard. Pending the beginning of these hearings, however, he advised that a statement be prepared showing the effects of the war emergency upon the practice of pharmacy in general and including the effect upon the colleges of pharmacy of withholding deferment from pharmacy students. It was suggested that this statement might be sent immediately to the House Committee on Education, since this is the Committee named in the House Resolution.

In response to this suggestion, a tentative statement was prepared by Dr. Kelly and the chairman of your committee and was submitted to the special committee appointed by the Association to assist in the preparation of a statement of this kind.

The comments of the special committee were transmitted to Dr. Kelly on August 21 for such use as he might care to make of them in preparing the final draft. Unfortunately, Dr. Kelly has been ill since the second week in August and up to the time I left Baltimore, the final draft of the statement had not been completed. However, the latest information

which I have on Dr. Kelly's condition is that he is much improved and no doubt the statement will be completed promptly.

A copy of the tentative statement is attached hereto for your information.

A. G. DuMez, Chairman

STATEMENT TO BE SUBMITTED TO CONGRESS COMMITTEE

Up to 1929 the annual increase in the number of pharmacies or drug stores in the United States was roughly in proportion to the increase in population and averaged about 1 per 2,000 persons. The Census reported that 58,258 pharmacies or drug stores were in operation in 1929 and the several state boards of pharmacy reported that they carried on their rolls in 1930 the names of approximately 105,000 pharmacists. No occupational census of pharmacists was taken at that time but it was estimated that approximately 25 per cent of the pharmacists whose names appeared on these rolls were not in active practice but had died, retired or entered some other activity, or were duplicate registrations through reciprocity. At that time there were 69 schools and colleges of pharmacy with a student attendance of about 9,500.

In the period from 1933 to 1935, approximately 2,000 of the pharmacies or drug stores or about 4 per cent were closed apparently as a result of the depression.

The Census reported that 57,903 pharmacies or drug stores were in active operation in 1939 and the state boards of pharmacy reported that the names of approximately 107,000 pharmacists were on their rolls in 1940. During this decade it was established through conferences with insurance companies, actuaries and others that the annual replacement required to maintain the personnel level at about 82,000, the number then in actual practice, was approximately 2.6 per cent or 2,134 and that the state boards of pharmacy registered annually a number of pharmacists slightly in excess of this estimated replacement.

A Census of Occupations of pharmacists was made in March, 1940, which showed that 78,708 men and 3,216 women were in active practice. At that time there were 66 colleges and schools of pharmacy with a student attendance of about 8,800.

These statistical data indicate that the replacement requirements of 2.6 per cent were being met up to 1940 and they also show that in this decade the number of pharmacies or drug stores did not increase, although the population increased by approximately 10,000,000.

When the armed forces reach their maximum strength of approximately 11,000,000, it is probable that about 14,000 pharmacists or 17 per cent of the personnel in active service in 1940 will be serving in the armed forces and that the annual replacement requirements for the armed forces after that time will be approximately 1,500 per year during the emergency. It is assumed that approximately 10,000 of the pharmacists in the armed forces will return to the practice of pharmacy after the emergency is over.

In 1940 and 1941, the student attendance at the colleges of pharmacy was approximately 8,800. In the fall of 1942 the attendance dropped to approximately 7,500; in the spring of 1943, to approximately 4,300; in the fall of 1943 to approximately 3,600; and in the spring of 1944 to approximately 2,700. Under present deferment provisions, no student of pharmacy eligible for service can be deferred after July 1st which will mean that attendance at the Colleges of Pharmacy until the regulations are amended will be limited largely to 4F's and women. In the spring of this year the number of women and 4F's was approximately 1,600 or an average of about 25 students per school or college.

Under normal conditions, approximately 2,100 pharmacists are required annually for replacements and with the sharp reduction in student enrollment, replacements, until regulations are amended, will probably not exceed 500, which is less than one-fourth of the annual number admitted to practice by state boards of pharmacy in normal times.

Reports received from state boards of pharmacy and other sources indicate that, since 1940, approximately 10,000 of the pharmacies or drug stores of the country have been closed largely as a result of the induction of pharmacists into the armed services.

Another result of the induction of pharmacists and the sharp reduction in student attendance is that many of the colleges of pharmacy will probably not be able to continue to operate under present conditions and that those which are able to keep going will suffer losses in their faculties which will be difficult if not impossible to replace and which will limit their activities in the post war future.

It should also be emphasized that, even after the present limitations are withdrawn, colleges of pharmacy will only be able to enroll during the first year one class approaching in numbers pre-war enrollments, namely, a freshman class, and that it will be four years under the pre-war educational program or approximately three years under the accelerated program, before the members of this class will graduate and become eligible for registration as pharmacists.

So far the pharmacists of the country have been able to maintain a satisfactory pharmaceutical service to the public, but it is evident from the above statements that the profession is approaching a critical situation which may adversely affect the health and welfare of the American people. It is of great importance that this situation have the earnest and sympathetic consideration of the Congress if the civilian pharmaceutical service is to be maintained and if the educational system in pharmacy is to be continued on the present basis.

The governmental forms and certain mechanics of democracy are merely incidental in the government's success. The idealism behind the democratic form of government is what determines whether it will be a success. Democracy is based on faith. Spiritual and mental considerations in life after all are the most important ones.—C. S. Boucher, University of Nebraska.

Report of the Committee on Distributive Education

The activity of this committee during the past twelve months has been limited in its accomplishments, because of the inability of the Subject Matter Committee to secure adequate personnel to continue the development of the teaching outlines which were proposed in *Miscellaneous Bulletin #2562*, issued in May, 1941.

You will recall that this outline proposed the development of teaching outlines for three major divisions of the educational program. The First and Second Divisions were assigned to Mr. Edwin J. Boberg, who, in collaboration with the members of the Subject Matter Committee and the United States Commissioner for Vocational Education, compiled the teaching outlines for all of Division One, and twelve units of Division Two, including the following unit titles:

- Unit 13: Allergens, Anti-Asthmatic and Anti-Hay Fever Products
- Unit 14: Diagnostic Reagents
- Unit 15: Biologicals
- Unit 16: Professional Relationships
- Unit 17: Professional Interviews
- Unit 18: Promotion of U.S.P., N.F., and N.N.R. Products
- Unit 19: Professional Ethics
- Unit 20: Supplementary Sales to Patient Groups
- Unit 21: Household Remedies
- Unit 22: Household Chemicals
- Unit 23: Store-Prepared Products
- Unit 24: Pharmaceutical Specialties

The latter have now been compiled in mimeographed form #2921-B. Your committee has been informed that these are to be mailed to the colleges and boards of pharmacy immediately.

A portion of Division Three was assigned to Mr. Ralph Beegle; however, the material which he has compiled has not been edited, thus preventing the publication of the teaching outlines for the Third Division.

The Subject Matter Committee has not been able to hold a formal meeting during the year, largely because its members have been busily engaged with duties and responsibilities of work closer at hand. Your committee believes, however,

that this work should be continued until such time as all teaching outlines are completed, in order that the educational program which the George-Deen Act provides may be utilized to the fullest extent.

We therefore recommend that the American Association of Colleges of Pharmacy continue the Committee on Distributive Education, in order that we may assume our share of the responsibility in establishing policies of adult education, insofar as they apply to the retail pharmacist.

E. R. Serles, Chairman

Report of the Committee on Professional Relations

The history of our profession has demonstrated the importance of proper professional relations with those that labor in medicine, dentistry, veterinary medicine, nursing and all the health professions. During recent years the war has magnified these problems. The professional standing of pharmacy has recently received some severe jolts. Its rating must be improved. Although the need is urgent, the methods of accomplishing the task are complicated and long.

What should be the nature of professional relations work? Differences of opinion throughout the profession are widespread and include the following suggestions:

1. "Clean-up" prescription departments and give drug stores a professional appearance.
2. Require minimum standards of pharmaceutical equipment in prescription departments.
3. Eliminate flamboyant advertising of so-called professional or ethical pharmacies.
4. U. S. P. and N. F. publicity.
5. Refresher courses for pharmacists.
6. Pharmacy speakers before local and state medical societies using exhibits wherever possible.
7. Medical speakers before local and state pharmaceutical organizations.
8. Joint meetings of physicians and pharmacists.
9. Distribute pharmaceutical literature to physicians.
10. Publication of pharmaceutical articles in state medical journals.

11. Cooperate with our allied professions in legislative matters and health programs.
12. Improve the curricula in our colleges of pharmacy so that our students will be better trained to speak the professional language of the physician and will be more capable of giving him beneficial knowledge and assistance.

Brief consideration of the above list, which can be easily added to, leads this committee to repeat that the task is complicated and long. The professional standing of pharmacy cannot be improved through propaganda alone. Propaganda has obvious limitations and there is even danger that it might be used to the detriment of pharmacy.

A successful program of professional relations must be well planned, executed and kept alive. It needs the cooperation of pharmacy, medicine, dentistry, veterinary medicine and nursing. Several national pharmaceutical organizations have committees on professional relations. These include the A. Ph. A., N. A. B. P., A. A. C. P., and N. A. R. D. Also many state associations have such committees. Thus, there is the possibility of duplication of efforts which if united could be made much more effective. Present conditions and the foregoing considerations lead this committee to make the following recommendations which are in line with the principles of unified pharmaceutical organization stressed by Dean Kuever in his presidential address at the Denver meeting in 1942.

Recommendations:

1. That the Committee on Professional Relations be continued during the year 1944-45.
2. That the Committee on Professional Relations be authorized to explore the possibility of forming a Council on Professional Relations to consist of officially delegated representatives from national pharmaceutical, medical and dental organizations and any other organizations of health professions which could aid and assist in executing a coordinated national program of professional relations.
3. That the A. A. C. P. approve the formation of a National Council on Professional Relations and its representation therein.

P. A. Foote, Chairman

Report of the Special Joint Committee to Study Nature and Extent of Pharmacy Training in the Armed Forces

The specific resolutions creating the committee reads as follows:

"Whereas the members of District No. 1 doubt the efficiency of the training in pharmacy now given to the armed forces, be it resolved that the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy be urged to institute a suitable board whose function shall be to compile information on the nature and extent of this training."

This joint committee was not activated until April of 1944, when Presidents Goodrich and Adams appointed the following personnel to serve as members of the committee:

From the American Association of Colleges of Pharmacy:

Dean E. R. Serles, co-chairman, University of Illinois College of Pharmacy.

Dean A. H. Uhl, University of Wisconsin School of Pharmacy.

Dean Ernest Little, Rutgers University College of Pharmacy.

From the National Association of Boards of Pharmacy:

Mr. Elmer Slaybaugh, co-chairman, Kansas Board of Pharmacy

Dr. R. P. Fischelis, New Jersey Board of Pharmacy.

Mr. L. D. Bracken, Washington Board of Pharmacy.

The committee is not unmindful of the fact that the American Council on Pharmaceutical Education appointed from its membership Dr. Robert P. Fischelis, Dr. Robert L. Swain, and Dr. Ernest Little, to make a similar study for the Council, and to report to the member colleges their recommendations concerning this important phase of pharmaceutical education, occasioned by the various types of educational training offered to enlisted personnel in both the Army and the Navy. The report of the Council's committee, which began its work on October 1, 1943, was not available in published form when our special committee began its work. It is true that some of the same ground has been covered in these studies, and the same agencies of the Army and Navy Training Programs have cooperated in supplying factual information upon which the recommendations in this report are based.

A careful review of the report of the sub-committee from the American Council on Pharmaceutical Education defines in

a general way the policies which such an organization should logically establish. However, no part of this report deals specifically with the mechanics of student registration and course evaluation in the training programs which have been officially sanctioned by colleges and universities in general, and although we in pharmacy have not entered into the program whole-heartedly, the courses taken by the enlisted personnel will sooner or later be presented to the individual college administrators and to the several boards of pharmacy for specific evaluation. It is the belief of our committee that it is the better part of wisdom for the college administrators and boards of pharmacy to be advised in detail concerning the functions and purpose of the Armed Forces Institute, and of such other educational programs as have been conducted by the specific branches of the Army and Navy, even though these training programs are admittedly directed towards the efficiency of the enlisted personnel while engaged in the line of duty.

The Armed Forces Institute, located at Madison, Wisconsin, offers to members of the Armed Forces on active duty a wide variety of correspondence and group study courses. Approximately 250,000 service personnel have already enrolled for correspondence courses. In addition, many thousands more are studying in group classes during off-duty time. The courses offered by the Institute are divided into two groups. The first group consists of courses offered directly by the Institute. Within this group, there are approximately 225 correspondence courses and between 250 and 300 self-teaching or group study courses. Competence in these courses is measured by end-of-course tests, which have already been developed for many courses. The Institute does not evaluate its own courses in terms of credit, but will furnish to a school or college detailed descriptive outlines of content upon which an evaluation may be based. In addition, the results of an end-of-course test will be furnished for those courses for which tests exist. In the second group, there are around 7,000 individual correspondence courses offered through the Institute by approximately 85 cooperating colleges and universities. Many of these courses are designated by the institutions offering them as credit-bearing courses. The Institute will report, upon request, the fact that a service man has completed a university extension correspondence course and the credit

value of the course as designated by the institution offering it. The final evaluation for credit, however, depends upon the institution from which credit is desired. In this group of extension courses are listed a number of subjects, which, in the judgment of this committee, might be considered as meeting a portion of the requirements for graduation from our member colleges, inasmuch as they are included in the Fifth Edition of the Pharmaceutical Syllabus, the first year of which is now in operation in the most of our colleges of pharmacy.

For the convenience of the college administrators and boards of pharmacy, the committee has divided the subjects which they deem applicable into three specific classifications:

1. Required in the majority of present curricula, as shown by the Syllabus and catalogs of the colleges of pharmacy.

(Didactic Only)

Freshman English
Elementary Accounting
First Aid
Principles of Economics
Public Health and Hygiene
Mathematics (Algebra and Trigonometry)
Salesmanship
Marketing

2. Courses which are required by some colleges and offered as electives by others.

American or English Literature
Business Law
Business Management
Physiology
Psychology
Languages (French, German, Italian, Norwegian, Portuguese, Spanish)

3. Subjects that are of cultural value, but for which no credit is recommended.

Accounting (Tax)
Accounting (Managerial or Industrial)
Botany (Survey of)
Bacteriology (Survey of)
General Chemistry (Theory of)
Chemistry (History of)
Entomology (Survey of)
Ethics
History (Eight Courses)
Journalism
Money and Banking

Municipal Government and Administration
Parasitology (Survey of)
Speech and Public Speaking
(* See Note below.)

All courses listed in these three categories are administered by the Commandant of the Armed Forces Institute at Madison, Wisconsin, and under the following procedure:

Method of Administration by the Armed Forces Institute

Each member of the armed forces personnel must file an application bearing the approval of his Commanding Officer, stating specifically the subject or subjects in which he desires to enroll. He also specifies his major field of interest, and the institution (if known) to which he desires the credit to be transferred. Accompanying his application is full information concerning his previous education and experience training which he considers might qualify him for the course requested. This, together with his complete military record, is forwarded to the Commandant of the Armed Forces Institute, who, after checking his application carefully, refers the same to the university or college listed in the application to determine whether or not the specific course will be accepted as requested by the applicant. This entire file, together with a brief description of the scope and college credit of the course, is sent to the person in the university charged with the responsibility of the accreditation of military personnel desiring advanced standing. It would be convenient for the Institute if we could furnish the Commandant with the name and address of the proper accrediting officer in each of our member colleges.

The student is then permitted to enroll in the course, which is supervised by the Institute, in collaboration with the college or university which has originated the extension course. In all cases, accurate records of the progress of the student are maintained by the Institute, and when such a course is completed, a report is made to both the institution which offered the course and the one named by the student from which he desires to obtain credit. No credit is offered the student until the latter institution formally acknowledges the credit so earned.

* Note: In certain instances the courses in these groups have been taken while the student was actually in residence on the college campus, under the Army Student Training Program. In other cases the teaching staff has been composed of college faculty members serving in the Armed Forces.

The Armed Forces Institute will also secure authenticated information as to the scope, content, and rating of all military personnel who have received training under the direction of either the Army or Navy; for example, Hospital Corps of the Navy, the Medical Administrative Corps of the Army, or Hospital Practices offered by the Marine Corps or Coast Guard. (Outlines of two such courses are enclosed.)

In addition to this information, the Armed Forces Institute is also able to administer examinations designed to measure educational content in terms of customary school standards of the military training and experience achieved during military service. Reports of such examinations may be requested by civilian institutions to whom service personnel or veterans have applied for academic credit.

The Commandant of the Institute is particularly anxious to receive from us any advice which we feel prepared to offer concerning traits of character or special qualifications which are desired of students who wish to study pharmacy. They also desire approval of a general statement, such as the one enclosed, entitled "Preparing to Become a Pharmacist," in order that it may be mailed to all members of the armed forces requesting information about pharmacy. This information would also be valuable to the Veterans' Administration Bureau, to be used by them in recommending students for training in pharmacy.

I should like to say that while pharmacy is listed among the subjects in the announcement of the Armed Forces Institute to all of its personnel, at present no specific subject requirement or personal qualifications are supplied. The inference is, therefore, that it would be impossible for an enlisted man or officer to secure any college credit toward a degree in pharmacy under the provisions of the Institute.

*Evaluation of Army and Navy Specialized Training
Courses Offered by Enlisted Personnel*

The joint committee recommends that courses offered by the armed forces, even though pharmaceutical services are performed, should not receive college credit, but might be considered by the boards of pharmacy in lieu of practical experience requirements. This recommendation is based upon the fact that the instructors in such programs are, for the most

part, armed forces personnel, not trained in the science and art of pharmacy.

Courses such as A.S.T.P., V-12, or Officer Candidate Schools curricula vary so greatly that their accreditation under one procedure is entirely impossible. An excellent definition of the best procedure to follow in connection with these courses is found in Bulletin #69, by the American Council on Education, Washington, D. C., under date of July 26, 1944.

Recommendations

The Committee recommends that the Commandant of the Armed Forces Institute be authorized to distribute a listing of the subjects, as set forth in this report, as being desirable educational training for a pharmacist, but that in each case the college credit accepted for the successful completion of such course be determined by the proper authority in each member college.

Further, that the Commandant may be authorized to distribute the information contained in the brochure entitled "Preparing to Become a Pharmacist."

Further, that the chairman of the Executive Committee of the American Association of Colleges of Pharmacy assist the Commandant in securing a roster of the persons in each of our member colleges charged with the responsibility of evaluating credits for advanced standing.

Further, that in all cases where boards of pharmacy extend such experience credit, an applicant shall be required to furnish competent certification that said experience was gained in the actual practice of prescription compounding, under the supervision of a Registered Pharmacist, as interpreted under the laws of the state where the applicant is applying for license.

Further, that the secretary of the National Association of Boards of Pharmacy shall supply the Commandant of the Armed Forces Institute with a roster of the representatives of each state board of pharmacy who are specifically charged with the responsibility of certifying for practical experience as a pre-requisite of examination.

E. R. Serles and Elmer Slaybaugh,
Co-chairmen

PREPARING TO BECOME A PHARMACIST

General Statement.

The minimum legal standards for admission to the practice of pharmacy in practically all states require that the applicant be 21 years of age, and a graduate of a four-year course in pharmacy leading to the Bachelor of Science degree in Pharmacy, in addition to one year of practical experience in a drug store which is operated under the supervision of a licensed pharmacist. Admission to all colleges of pharmacy which are accredited requires graduation from a four-year accredited high school course.

Nature of the Work.

The graduate pharmacist is afforded an opportunity to engage in a wide range of positions related to the practice of the profession, such as retail pharmacy, hospital pharmacy, pharmaceutical chemistry, food and drug inspection, manufacturing pharmacy, and as members of teaching and research staffs in colleges of pharmacy.

General Qualifications and Training Necessary.

Only a few of the colleges of pharmacy have special admission requirements. However, a successful pharmacist must have well-established traits of character, such as tact, integrity, dependability, and resourcefulness. A fair degree of mechanical skill is advantageous, since many pharmaceutical operations require a high degree of skill. Thorough high school training in English, mathematics, and the sciences is desirable. Foreign languages are not required, except for graduate study.

Specific Qualifications and Training.

The successful practice of pharmacy requires that the student have a thorough knowledge of chemistry, biology (plant and animal), in addition to a specific knowledge of composition, use, and dosage of all materials used in the practice of medicine. Cultural subjects, such as English, the social sciences, and business administration, are essential. Specific course requirements must be obtained from the college or university in which the student expects to enroll.

Steps Which Should Be Taken to Obtain Correspondence Courses Acceptable in a College of Pharmacy.

- A. Make a choice of a college or university where you wish to take your undergraduate work.
- B. Write to this institution indicating:
 1. Your educational background.
 2. Courses contemplated through USAFI.
 3. Your desire to know what courses taken through USAFI will be accredited.
- C. Upon obtaining this information, send to USAFI copies of the letters received together with the name and location of the educational institution.

For Further Information Concerning Specific Legal Standards of Practice, Write to:

- A. The secretary of the state board of pharmacy where you wish to practice.
- B. The secretary of the National Association of Boards of Pharmacy, 130 N. Wells St., Chicago, Illinois.
- C. The dean of the college in which you desire to enroll.

Branch: Army, School Branch
Training Division,
Office of Surgeon General
Course: Pharmacy Technician

DESCRIPTION OF SUBJECTS

Pharmacy Mathematics: Metrology, specific gravity and volume, density, thermometric scales, ration and proportion, the strength of solutions, alligation, reducing and enlarging formulas, posology. (36 hours)

Administration and Supply: Medical supply catalog, requisitions, W. D., M. D., forms No. 16 series, duties of pharmacy officer and noncommissioned officer in charge of records. (16 hours)

Chemistry: Chemical and physical phenomena of matter. Fundamental principles of inorganic and organic chemistry, the relation of chemistry to pharmacy. (56 hours)

Materia Medica: Source of drugs and their manufacture, classification of active principles, discussion of common drugs with their uses and official doses, toxicology, incompatibility. (24 hours)

Prescriptions: Form and terminology of military prescriptions, common abbreviations, medical terminology. (10 hours)

General Pharmacy: Pharmaceutical operations and apparatus, heating, filtration, colation, decantation, precipitation, comminution, solutions, extraction, crystallization, demonstration and actual preparation of pharmaceutical preparations, aquæ, liquors, emulsions, syrups, mucilages, mixtures, magmas, lotions, glycerites, spirits, elixirs, collodions, linaments, oleates infusions, tinctures, fluid-extracts, oleoresins, extracts, powders, pills, tablets, ointments, pastes and suppositories. (136 hours)

Pharmacy Laboratory: Actual practice in filling prescriptions under supervision in laboratory or model pharmacy, where practicable, students will understudy in hospital pharmacies for whatever period can be arranged. (142 hours)

Examinations, Tests, Inspections, and Reviews: Administrative and training. (48 hours)

AMERICAN COUNCIL ON EDUCATION

Cooperative Study of Training and Experience in the Armed Services

Branch: Coast Guard.

Course: Pharmacists's Mate School.

Locations: Groton, Connecticut.

Length of Course: 12 weeks.

Desirable Entrance Qualifications:

1. Previous study of anatomy, physiology, chemistry, hygiene, sanitation
2. Minimum test scores:
 - (a) Stanford Achievement Test, Advanced Arithmetic—60.
 - (b) Stanford Achievement Test, Social Studies—65.
 - (c) General classification, Form #1—50.
 - (d) Arithmetical Reasoning Test, Form #1—45.
 - (e) Reading Test, Form #1—45.

Prospective Rating: 50% of graduates may be rated as Pharmacist's Mate, third class, (Ph. M3c). The remaining men who successfully complete the course may be advanced in rating, not above that of Seaman, first class, (S 1c) in accordance with their abilities.

Brief Description of Course:

<i>Subject</i>	<i>Hours</i>	<i>Nature</i>
1. Anaesthesia	5	Theory
2. Anatomy and physiology	33	Theory
3. Clerical procedure	33	Theory
4. Chemical Warfare	5	Theory
5. Dietetics	16	Theory
6. Medical and surgical disease	11	Theory
7. Pharmaceutical mathematics	22	Theory
8. Toxicology	9	Theory
9. Typing	27	Practical
10. Bacteriology and elementary lab. procedure	45	Theory and Practice
11. Chemistry	24	Theory and Practice
12. First Aid and minor surgery	56	Theory and Practice
13. Materia Medica	49	Theory and Practice
14. Nursing	48	Theory and Practice
15. Pharmacy	63	Theory and Practice
Total Subject Hours:	446	
Examination:	33	
Total Hours:	479	

108 hours of assigned study periods at night, in current subjects, in addition to above outline.

Types of Equipment: Typewriters, microscopes and other laboratory equipment.

Summary Statement of Scope of Course: The course covers the activities of a pharmacist's mate as applied to the simple remedies, treatment, first aid, bandaging, ward management, bed technique and care of patients.

Related Civilian Occupation or Occupational Fields: Medical, dental, X-ray technician, anesthetist, hospital attendant, nurse aid, pharmacist, prescription clerk, laboratory assistant.

Committee on Formulation of Policy for Awarding American Foundation for Pharmaceutical Education Scholarships and Fellowships

Scholarships:

The Committee appointed to draw up a statement of policy to serve as a guide to the Foundation and to the colleges in the awarding and administration of scholarships and grants from funds provided by the Foundation submits the following recommendation:

Scholarships and grants awarded from funds provided by the American Foundation for Pharmaceutical Education shall be used to encourage superior high school graduates to pursue pharmacy as a profession and to assist worthy students in need of financial aid. These scholarships shall be known as the *Pharmacy Foundation Scholarships*. Eligibility for scholarship awards and grants shall be limited to (a) students who have maintained a rank in the upper fifty percentile of their high school classes as certified by the high school principal, or (b) to college students who have established evidence of competence. Awards made on the basis of scholastic ability shall be known as "scholarships" and those made on the basis of financial need shall be known as "grants."

So that the methods of making and handling awards may be substantially uniform, it is recommended:

1. That each school to which funds are made available shall be solely responsible for the selection of the recipients of scholarships and grants.
2. That the amount of an award in any term or year shall be determined, within the limitations of the funds provided, by each school.
3. That all funds shall be deposited with the cashier or appropriate officer of the school.

This recommendation was placed before the officials of the Foundation prior to their establishment of minimum requirements to be observed for Pharmacy Foundation Scholarships. The Foundation has made financial need the prime require-

ment for awards. Your committee believes that the primary basis should be scholarship. Your committee also believes that students who meet the minimum requirements as set forth by the Foundation should be awarded grants and that the term "scholarships" should be reserved for those who stand in the upper ten percentile of their high school class or who have been awarded scholarships on the basis of competitive examinations, or have maintained an average of B in collegiate work. It is our opinion that very beneficial and far-reaching results might be obtained if at least a part of the scholarship funds might be used for a talent search without regard to financial need.

Fellowships:

Following the New York meeting of the Executive Committee of the A.A.C.P. with the directors of the American Foundation for Pharmaceutical Education, your committee was requested to present a recommendation, preferably in the form of a resolution, for transmission to the Foundation in order to establish a basis for fellowship grants in aid of research. Your committee offers the following resolution:

Whereas, the American Foundation for Pharmaceutical Education has stated in part as its purposes that it will "support graduate work in colleges qualified to carry on such programs in a creditable manner" and "encourage scientific research both as a necessary component of graduate work and as special projects," and

Whereas, a number of our colleges of pharmacy are qualified to carry on graduate teaching and scientific research programs and financial support to such programs would greatly stimulate their progress, therefore be it

Resolved, that the American Association of Colleges of Pharmacy recommend to the American Foundation for Pharmaceutical Education:

1. That 12 graduate fellowships of \$1500 each be established and awarded annually by the American Foundation for Pharmaceutical Education and assigned to those colleges of pharmacy best qualified to conduct graduate work.

2. That these fellowships shall be known as The Pharmacy Foundation Fellowships in Pharmacy.

3. That not less than \$1200 of the fellowship be paid to appointees, the remaining \$300 or any part thereof to be used for equipment and supplies in forwarding the research.

4. That the stipend paid to any fellow may be determined by the institution. For example, one school might establish two \$600 fellowships and another might establish one \$1200 fellowship.

5. That each institution to which a graduate fellowship is assigned may determine the qualifications of fellows, select fellows, and prescribe requirements and conditions under which the graduate study and research shall be carried out.

6. That reports on the qualifications of fellowship appointees and their progress in graduate work and research shall be filed with the Foundation for Pharmaceutical Education.

The excellent results obtained through the provision of funds from the American Foundation for Pharmaceutical Education have already become evident. Your committee believes that the Foundation officers should be made aware of the appreciation and attitude of our Association. Accordingly, the following resolution is offered:

Be It Resolved, that the American Association of Colleges of Pharmacy express its appreciation to the American Foundation for Pharmaceutical Education for the provision of funds for the establishment of undergraduate scholarships in our member-colleges, and

Be It Further Resolved, that the Association recommend to the Foundation its belief that no better use can be made of the Foundation funds than the extension of its scholarship program and the establishment of a fellowship and a student loan program.

Glenn L. Jenkins, Chairman

Annual Report of the American Council on Pharmaceutical Education, Inc.

The following constitutes the twelfth annual report of the American Council on Pharmaceutical Education, Inc., to its sponsoring organizations, namely, the American Pharmaceutical Association, National Association Boards of Pharmacy and the American Association of Colleges of Pharmacy. It covers the period September 9, 1943, to September 6, 1944.

Membership of the Council:

The following is the present membership of the Council:

E. F. Kelly, Pres., representing the A. Ph. A. 2215 Constitution Ave., Washington, D. C.	Term expires 1944
L. D. Bracken, representing the A. Ph. A. 1314 Fourth Ave., Seattle, Washington	Term expires 1948
Robert P. Fischelis, representing the A. Ph. A. 28 W. State St., Trenton, N. J.	Term expires 1946
H. C. Christensen, Vice-Pres., representing the N. A. B. P., 130 N. Wells St., Chicago, Ill.	Term expires 1944
R. L. Swain, representing the N. A. B. P. 330 W. 42nd St., New York, N. Y.	Term expires 1948
A. C. Taylor, representing the N. A. B. P. 1733 Upshur St., N. W., Washington, D. C.	Term expires 1946
A. G. DuMez, Sec.-Treas., representing the A. A. C. P., 32 S. Greene St., Baltimore, Md.	Term expires 1944
Townes R. Leigh, representing the A. A. C. P. Univ. of Florida, Gainesville, Fla.	Term expires 1946
Ernest Little, representing the A. A. C. P. 1 Lincoln Ave., Newark, N. J.	Term expires 1948
Earl J. McGrath, representing the A. C. E. University of Buffalo, Buffalo, N. Y.	Term expires 1948

The terms of E. F. Kelly, representing the American Pharmaceutical Association; H. C. Christensen, representing the National Association Boards of Pharmacy; and A. G. DuMez, representing the American Association of Colleges of Pharmacy, expired this year.

Messrs. Kelly and DuMez were reappointed by their respective associations and Mr. P. H. Costello, secretary of the National Association Boards of Pharmacy, was appointed by the latter organization to succeed Dr. H. C. Christensen.

Dr. Christensen declined reappointment because of increasing physical handicaps which made it impossible for him

to continue to participate fully in the Council's activities. He served as a member of the Council since its creation in 1932, and took an active part in all of the Council's activities, including inspection of the colleges. His experiences as secretary of the National Association Boards of Pharmacy over a period of many years made his advice and counsel exceptionally valuable. The opportunity is, therefore, taken in this report to make acknowledgment of the valuable contribution which he made to the work of the Council and to express appreciation for his long and faithful services.

Meetings: The Board of Directors of the Council held four meetings during the year; one at Columbus, Ohio, September 8, 1943, and three meetings in Baltimore, Maryland, October 6, 1943, April 13, 1944, and August 6, 1944.

Accreditation Activities: Only one college of pharmacy made application for accreditation during the year. This college completed its questionnaire forms too recently to permit of its inspection before this meeting, so that a definite report on its status can not be made at this time.

Several educational institutions have made inquiries relative to the advisability of organizing a college of pharmacy as an additional unit to their present organizations and several others have inquired as to the conditions which would have to be met to comply with the Council's standards in establishing a college of pharmacy. In reply to these inquiries, these institutions were informed of the Council's requirements for accreditation, of the difficulty of securing an adequately trained faculty at this time and of the fact that the expenditure of considerable funds would be necessary to establish and maintain a college of pharmacy which would meet the Council's requirements. Mergers of existing colleges of pharmacy with established educational institutions, wherever they seemed to be desirable have been encouraged, but as yet there are no indications that any combinations of this kind have been made.

Owing to the unsettled conditions at most colleges of pharmacy as a result of Selective Service System rulings with respect to the draft and to the Government's efforts to discourage travel by civilians, except in furtherance of the war program, the Council did not make any inspections of colleges

during the year. In lieu thereof, however, it sent out a questionnaire on April 25, 1944, to secure such information as was believed would give a fairly accurate picture of conditions as they exist today. The questionnaire was sent to the 64 accredited colleges of pharmacy and 58 completed and returned it. The information supplied by this questionnaire may be summed up briefly as follows:

A large majority of the colleges reported that they were operating at a deficit, but that this deficit was either being made up from general university funds, where the colleges were integral units of universities, or they were being made up from gifts and grants or income derived from other sources. These deficits ranged in amount from \$58.34 to \$41,863.08 for the year 1943-44.

Thirteen colleges reported surpluses, ranging in amount from \$27.34 to \$6,500.00.

Fifty of the colleges reported income from student fees for the year, ranging from \$332.50 to \$80,927.40.

Twenty-three colleges reported income from state appropriations in amounts ranging from \$1,350.00 up to \$106,560.00.

Twenty colleges reported incomes from gifts and grants in amounts ranging from \$74.00 to \$40,161.16.

Twenty-three colleges reported income from other sources in amounts ranging from \$402.00 to \$63,193.16.

From the foregoing, it is evident that up to the present time, at least, all of the colleges which reported have been able to secure sufficient funds to permit them to operate. It is problematical, however, how much longer some of the colleges now operating with a deficit can continue to keep going under these conditions.

The data supplied by the questionnaires indicate that none of the colleges operating on a semester basis are giving less than 32 weeks of instruction per year, and that none of the colleges operating on the quarter system are giving less than 33 weeks of instruction per year. It would seem, therefore, that all of the colleges which reported are now complying with

the Council's requirement of not less than 32 weeks of instruction per year.

The data relative to faculties was somewhat surprising. Most colleges showed only a small net loss in faculty members. Twenty-nine colleges reported a net loss in faculty members, ranging from 1 to 10, but the loss in cases where the number was high, was due almost entirely to the departure of graduate student assistants, who could be spared because of the marked reduction in enrollments, which made their services unnecessary.

Five colleges reported a net gain in their faculties, ranging from 1 to 3.

Thirty colleges reported changes in curriculum. In some instances, subjects were dropped, but in most instances the change consisted of the substitution of new courses for those already in the curriculum. In most cases, these changes did not represent any reduction in the amount of work required of students.

Only 11 colleges reported enrollments of Army, Navy or other trainees. The number enrolled ranged from 1 to 600. The latter were Coast Guard trainees and were taken in batches of 200 each for periods of about three months.

Only 35 colleges reported enrollments of ex-service men. The total number enrolled in these colleges was 82, and the highest number enrolled in any one was 6. It is anticipated that the number of ex-service men enrolled will increase from now on, but it is not believed that the increase will be as great as some of the colleges expect. It is doubted if the influx will be anywhere near that experienced after World War I. The American Council on Education estimates that there will only be about 400,000 of the discharged servicemen and women who will be of the college level in education, in addition to those who have already had some college work, and who may be expected to return to complete their education. Obviously, pharmacy can expect to receive only its proportionate share of these men and women.

Disturbing rumors have come to the Council from time to time concerning some of the colleges which did not complete and return the questionnaire, but since no specific charges

were made against any of these colleges by any authorized person or agency, the Council did not make a formal investigation of them. However, the time is rapidly approaching when the Council will resume its inspectional activities and, if irregularities are then discovered, you are assured that these will be appropriately dealt with.

Changes in Policy and Standards for Accreditation: At a meeting held on October 6, 1943, the Council revised its stated policy with respect to the 24 month accelerated program of instruction to conform to the opinions set forth in the resolutions adopted by the American Association of Colleges of Pharmacy and the National Association Boards of Pharmacy at the annual meetings of these organizations held in Columbus, Ohio, in September, 1943. The revision consisted of an amendment to the original policy, and fixed the maximum limit of acceleration which would be permitted at 32 months of actual instruction instead of 24 months. The amended policy was made effective on October 10, 1943, provided that the standards of acceleration adopted on July 12, 1943, should apply only to such portion of accredited courses which were instituted subsequent to July 12, 1943, and which could be terminated prior to February 1, 1944, and provided that all other accelerated programs requiring less than 32 months (128 weeks) of actual instruction, exclusive of holidays and vacations, for their completion, should likewise be terminated prior to February 1, 1944.

Date of Termination of the Accelerated Program of Instruction: At present, 49 or more of our colleges of pharmacy are operating on an accelerated basis. In 40 of these cases, the entire institution, of which the college of pharmacy is an integral part, is operating on an accelerated basis.

So far as the needs of the military services are concerned, there does not appear to be any necessity for continuing the accelerated program of instruction in pharmacy. Acceleration as generally carried out has imposed unusual and heavy burdens upon the administrative officers and faculties of our schools of pharmacy and there has been much dissatisfaction expressed with regard to its effect upon the students. Practically all of the college of pharmacy deans have expressed the desire to discontinue the program immediately if that were

possible, but unfortunately conditions do not permit of so abrupt a termination.

Some of our colleges of pharmacy are so intimately bound up in their operation with other departments of the educational institutions of which they are an integral part that they must conform in a large degree to the decisions reached by these other departments. Some universities are under contract with the government to accelerate their programs of instruction in all departments and to continue this acceleration for a period of six months after the war ends, unless the contract is terminated by the Government at an earlier date. In some states, as New York State for instance, the Department of Education has approved acceleration for the duration of the war and six months thereafter. A goodly number of the colleges take the position that there is an obligation to the students who began their studies on the accelerated basis. Some of these institutions feel that the program should be continued until all seniors, juniors and sophomores have been graduated. Some colleges, located in states in which there is a marked shortage of pharmacists, feel that acceleration should be continued until the shortage has been made up. There is also some doubt as to what the Government will expect colleges to do under the provisions of the Servicemen's Re-adjustment Act of 1944, commonly referred to as the G. I. Omnibus Bill. There are those who contend that ex-servicemen will be required to continue their studies without interruption until completed if they are to draw the pay provided by this Act. There are others who contend that this period of education may be interrupted for vacations, provided the ex-servicemen do not receive pay during these vacation periods. It would seem that a final decision on this point, as well as on the other issues mentioned, should be reached before any decision relative to the date of termination of the accelerated program is made.

In view of the foregoing, the Council deems it inadvisable to set a definite date for the termination of the accelerated program of instruction in pharmacy at this time, but suggests that its sponsoring organizations, particularly the American Association of Colleges of Pharmacy, take this matter under consideration and advise the Council as soon as possible of any decision which they may reach.

College Credit to Be Allowed for Educational Experiences Gained in Military Service: A matter with which the colleges will soon be concerned and upon which the Council will be compelled to formulate a definite policy, is that of giving credit for instruction received and experiences gained while in military service. The Council anticipating that it would be called upon to formulate a policy to meet these conditions, appointed a committee on October 1, 1943, to make a study of educational credits to be granted for instruction received while in military service and for experience gained in this service. The first report of the committee was made to the Council on April 13, 1944, and copies were made and distributed to all of the colleges of pharmacy. Since then, the American Council on Education appointed a committee to make a special study of this subject and all accrediting agencies were requested to contribute funds to defray the cost of this study. Your Council made a contribution of \$250 in response to this request. Information has been received from the American Council on Education that its committee is completing its studies and is now engaged in the preparation of a guide to evaluate the educational experiences gained in the armed services for distribution to schools and colleges. It is stated that this handbook will describe the formal training programs of the armed services and that it will recommend for each program the basis upon which credit should be awarded. The price of the guide will be \$2.00 and it may be ordered from G. P. Tuttle, 363 Administrative Building, Urbana, Illinois.

Under date of August 16, 1944, Lieutenant-Commander Earl J. McGrath of the United States Naval Reserve, who is a member of the American Council on Pharmaceutical Education, in a communication to the Council, expressed his opinion with regard to the matter of credits to be allowed for educational experiences gained in military service as follows:

"I should like to express an opinion as a member of the American Council on Pharmaceutical Education concerning the accreditation of in-service education. It is not intended that this opinion should represent the official Navy position. The American Council on Pharmaceutical Education has, with considerable effort, established certain standards for schools of pharmacy. It would seem to me to be desirable to maintain these standards, even during the period of educational malad-

justment such as the one in which we are now living, if that is possible. Each school of pharmacy has presumably established certain academic standards by which the performance of its own students is measured. I believe that justice can be done to the servicemen with regard to the evaluation of in-service education in only one way if we are to maintain institutional standards. That is to apply the standards to him that would have existed if he had not entered the military service."

"Accordingly, I believe that servicemen seeking credit for courses taken while in the services which they consider to be an integral part of the pharmacy curriculum should have these courses evaluated by the institutions' own examinations. In professional education, I believe this procedure to be more necessary than in liberal arts colleges because professional subject matter forms a rounded program which is calculated to lead to professional competence. Public Health is involved in this matter as you know better than I do. I believe that the interest of the public and of academic institutions, as well as those of returning servicemen can be best protected by the procedure which I have described; that is, of leaving the determination of academic credit to the institutions concerned."

Pending the completion of the Guide being prepared under the auspices of the American Council on Education and in view of the conclusions reached by your Council's committee and the opinion expressed by Commander McGrath, who has an intimate knowledge of the educational programs offered by the military services, the Council offers for consideration by its sponsoring organizations the following recommendations of its Committee on Evaluation of Educational Experiences Gained in the Military Services. These are as follows:

1. It is recommended that colleges of pharmacy give no credit for work experiences such as employment in military hospital dispensaries, even if done in well regulated hospitals. In the opinion of the committee, credit for this kind of work might more appropriately be given by boards of pharmacy toward the practical experience requirement for licensure.

2. It is recommended that any credit extended be granted on a basis of educational values received, rather than courses taken or experience gained. This means careful testing, usually by means of formal examinations of many of the applicants applying for college credit.

3. It is recommended that the policy of the colleges should be to extend appropriate but conservative college credit for military activities. The committee suggests that the maximum amount of credit allowed for military activities of all sorts should usually be less than one-eighth of the requirements for the B. S. degree. Credit should be allowed only for such subjects as may be considered fully equivalent to the same or similar subjects in the degree course and never in excess of an hour for hour basis.

4. The granting of blanket credit for military experience is strongly advised against, except as a basic military training and indoctrination program required of all men and women in the armed forces may be credit toward the colleges' military training, physical education, first aid or hygiene requirement. Credits, so permitted, should be conservatively granted and never in excess of the amount of such work required or permitted by the college for the degree under consideration.

5. It is recommended that the Council advise accredited colleges to avail themselves of the "clearing-house activities of the U. S. Armed Forces Institute in assembling data and other information relative to the individuals under consideration.

Shortcomings of Our Colleges of Pharmacy in Most Urgent Need of Correction: In last year's report, an overall picture was given you of the condition of our colleges of pharmacy as observed by the Council at the time of the initial inspections of these institutions. More than five years have now elapsed since these inspections were completed and it can be stated that all of the colleges, without exception, have improved in one way or another during this period. However, there still remains much to be done in most of our colleges if they are to meet fully the standards set for them. It is believed, therefore, that the time has now arrived when the Council should state specifically what in its opinion are the outstanding deficiencies of our colleges of pharmacy and how these can be corrected. Therefore, your attention is directed in this report to two factors which in the opinion of the Council, are largely responsible for retarding the development of our colleges of pharmacy into the strong educational units which we desire them to become, namely: the nature of the organization set up to administer the affairs of these colleges in most of our

universities and colleges, and the failure of most of the colleges to alter their curricula to meet the changes in pharmaceutical practice brought on by the rapid advances made in the medical sciences within the last several decades.

The Council in its initial investigations was struck with the inadequacy of the organization set up for the education and training of pharmacy students in some of the endowed universities and in most of the state universities and colleges in which such instruction is offered. In some of these universities and colleges, this inadequacy manifested itself in the small measure of autonomy exercised by the colleges of pharmacy; in others, in a lack of authority with respect to the control of fiscal and academic policies; and, in most of these institutions, by the small numbers of pharmaceutically trained persons on the faculties.

In quite a number of our state universities and colleges, the college of pharmacy is a school or division in the college of arts and sciences. In some instances, it is hardly more than a department in this college and has little or no autonomy. Two colleges of pharmacy are units of state supported medical colleges. In both instances, these colleges of pharmacy do not offer instruction in some of the foundational and cultural subjects, although these subjects are a part of their curricula. Students, while enrolled in these colleges of pharmacy, are required to obtain the required instruction in these subjects in some outside institution over which the college of pharmacy has no control. In administrative organizations of the foregoing type, the superior college or unit usually exercises control over fiscal matters, faculty personnel and curriculum.

The Council, in its investigations, found that many of the colleges of pharmacy operating under the type of organization described in the preceding paragraph did not even have a hand in the preparation of their budgets. In several instances, the pharmacy budget was controlled by the department of chemistry of the college of arts and sciences. In one of the institutions investigated, the department of chemistry not only controlled the budget, but also appointments to the faculty and the admission and scholastic records of pharmacy students. The head of the pharmacy department in this institution was compelled to go to the office of the head of the department of

chemistry every time he desired to examine the record of a pharmacy student.

In most of the cases in which this type of organization exists, appointments to the pharmacy faculty were found to be controlled by the colleges of arts and sciences. Under these conditions, it is to be expected that academic rather than professional qualifications would be the deciding factor in making appointments to the pharmacy faculty and that the numbers of pharmaceutically trained persons on these faculties would be small.

In organizations of this type, the superior college or unit also exercises control over the pharmacy curriculum. Changes can only be made after approval has been given by the controlling unit and approval is difficult to obtain where these changes are of primary interest to pharmacists rather than members of the other professions or the academicians. In the opinion of the Council, this type of organization and the control which it exercises over the curriculum are also largely responsible for the misleading titles given to the courses listed in many of the catalogues issued by our colleges of pharmacy and for the hodge podge of courses designated as courses in pharmacy in these catalogues.

The curricula of many of our colleges of pharmacy, whether university units or independent institutions, while ostensibly conforming reasonably well with the requirements of the Pharmaceutical Syllabus, are, in reality the same old curricula that were followed twenty-five years ago and the contents of the courses comprising these curricula are of the same vintage. This is attributed by the Council to lack of initiative on the part of some of the colleges of pharmacy, to the lack of adequate funds with which to finance these changes in others and to the lack of authority to make such changes in the case of the colleges which are departments of state universities and colleges.

All of us realize that the practice of pharmacy has changed within the past several decades and that there is little or no probability of its returning to its former pattern. It seems to the Council that it is time the colleges of pharmacy ceased to bemoan the fact that the modern pharmacist no longer performs certain professional services such as the manufacturing of galenicals, the making of plasters and pills, etc., to accept with good grace the change which has taken place and to make

provision in the pharmaceutical curriculum to meet it. Such subjects as botany, pharmacognosy and galenical pharmacy seem to the Council to be overemphasized as a rule, whereas instruction in the newer fields of knowledge are underemphasized or wholly ignored.

It is believed that the future progress of professional pharmacy depends to a large extent upon giving pharmacists the training which will enable them to assume a more important place among the health service groups. The personnel of the medical profession whether attached to hospitals or engaged in private practice needs trained consultants in practical pharmacology and the techniques of medication. In the opinion of the Council, the average pharmacy curriculum is not adequate to train pharmacists who can fulfill this need. More extensive work is required by the colleges in theoretical and applied pharmacology, including bioassaying; in synthetic organic chemistry; biochemistry; physical chemistry; bacteriology, including serology and immunology; and public health.

Pharmacology as taught in Medical Colleges, in which about 14 or 15 drugs are studied intensively, does not meet the requirements of students in pharmacy. Pharmacology for the latter students should cover the pharmacological actions of all important groups of drugs and should include the toxicology and posology of all official drugs. It should also be sufficient in scope to give a student a thorough understanding of the official and non-official bioassay methods in general use. In the opinion of the Council, instruction in this field should be given in a separate department headed by a person who has had special training in pharmacology with a background in pharmacy.

Fundamentally, pharmacists should be experts in drugs and should, therefore, have the knowledge required to enable them to give physicians information relative to the production and properties of the many important synthetic organic compounds, which are now being marketed for use as a therapeutic agents. They should also be able to give information of this character on such organ products as the hormones and tissue extracts, the vitamins, etc. Instruction in these subjects is believed to be of sufficient importance to justify the creation of a separate department. For want of a better name, this

department might be called the Department of the Chemistry of Medicinal Products.

A knowledge of physical chemistry as applied to pharmacy is becoming of greater and greater importance to practicing pharmacists. It is now found desirable to adjust the hydrogen-ion concentration of many pharmaceutical preparations, colloids are finding a place in modern therapy and ointment bases are now being developed to meet certain physico-chemical standards. It is believed that the best results will be obtained if instruction in this subject is placed in charge of a person who has had adequate training in physical chemistry with a background in pharmacy.

The Department of Microbiology is suggested as the name for another department which should be added to existing departments. This department should give instruction in bacteriology, including serology and immunology, and it should be taught with the emphasis on methods of production, standardization, differences in brands, dosage and preservation. In this department, there should also be given instruction regarding molds and fungi since these forms of plant life have recently attained prominence as sources of therapeutic agents, namely, penicillin, gramicidin, tyrothricin, etc.

At the present time, most of our colleges of pharmacy make some effort toward giving instruction in public health. In the large majority of cases, this instruction consists of a dozen or more lectures given by some member of the faculty who has no special knowledge of the subject. In the opinion of the Council, instruction in this field is of such importance that greater emphasis should be given to it. A separate department should be created to teach this subject and it should be headed by a teacher trained in public health work.

In our universities where instruction in pharmacy is offered, the pharmacy faculty as heretofore stated is a mixed faculty. Since a college of pharmacy is required by our present standards for accreditation to have only three departments, only one of which must be headed by a pharmacist, the members of the faculty who have had no pharmaceutical training greatly outnumber those who have had such training, a condition which is believed to be inimical to the best interest of pharmaceutical education. If the five departments sug-

gested were added to the three which a college of pharmacy is now required to have, there would be a total of eight departments headed by men with scientific or professional training, which would offset the preponderance of academic influence now manifest on our pharmacy faculties. It is believed that this would give our pharmacy faculties greater strength, which in turn would lead to greater autonomy for our colleges of pharmacy, greater control over the management of their affairs and lead to the desired improvement in pharmaceutical education.

It is also the opinion of the Council that the interests of pharmacy, the allied professions and the public will be served best if our colleges of pharmacy will confine their activities mainly to the education and training of students who are preparing to qualify for service in one of the several divisions or branches of pharmacy, and to the promotion of graduate study and research. The training of students to qualify as technicians or helpers to the allied professions is believed to be a function which should be assumed by the colleges representing the respective professions and not by the colleges of pharmacy. It is only by demonstrating that they are satisfying a real need in the education and training of pharmacy students that colleges of pharmacy can justify their existence as such.

For fear that the intent and purpose of these remarks may be misconstrued by some, it is stated that they are not intended to dismay or frighten you. On the contrary, they represent the views of the Council with respect to two of the more significant defects of our colleges of pharmacy observed in its investigations of these colleges and are made with the hope that they may serve as a prospectus for the guidance of the colleges in their future growth and development.

Financial Statement: During the past year, the only disbursements of funds made by the Council were those required to pay the expenses of the members incurred in attending meetings and the cost of office supplies, postage and communications, except in the case of a contribution of \$250.00, which was made to the American Council on Education to assist the latter in making a cooperative study of college credit to be allowed ex-servicemen for educational programs completed and experiences gained while in military service.

A proposed budget to cover the expenses of the Council in

the discharge of its duties over the next three years has been prepared and presented to the executive committees of its sponsoring organizations for such action as these committees may see fit to take at this time.

For details of the expenditures for the current year, see the attached statement which covers the period September 9, 1943, to September 8, 1944.

A. G. DuMez, Secretary-Treasurer

AMERICAN COUNCIL ON PHARMACEUTICAL EDUCATION
FINANCIAL STATEMENT

September 9, 1943, to September 8, 1944

RECEIPTS

1943

Sept. 9 Balance on hand.....\$4183.12

1944

June 13	American Association Colleges of Pharmacy,	
	contribution	600.00
13	National Association Boards of Pharmacy,	
	contribution	600.00
13	American Pharmaceutical Association, contribution...	600.00
		<hr/>
		\$5983.12

EXPENDITURES

1943

Sept. 27	A. G. DuMez, travel expense.....	104.48
27	D. E. Gue, stenographic services.....	25.00
27	Ernest Little, travel expense.....	15.80
27	R. L. Swain, travel expense.....	16.38
27	R. P. Fischelis, travel expense.....	12.30
Oct. 1	Russell Carrington, lunch for members.....	12.29
7	A. G. DuMez, travel expense.....	8.88
7	R. P. Fischelis, travel expense.....	18.00
11	A. C. Taylor, travel expense.....	18.99
11	Ernest Little, travel expense.....	29.10
11	P. H. Costello, travel expense.....	76.49
11	A. G. DuMez, telephone, telegrams, etc.....	15.10
11	R. L. Swain, travel expense.....	21.74
11	T. R. Leigh, travel expense.....	92.25
12	E. F. Kelly, travel expense.....	9.59
19	R. P. Fischelis, travel expense.....	14.80
Nov. 1	E. F. Kelly, postage, telephone, etc.....	9.96
4	State Tax Commission.....	11.95
4	State Tax Commission.....	11.35
30	Ernest Little, travel expense.....	8.46

1944

Jan.	7	State Tax Commission.....	10.00
Apr.	25	American Council on Education for study of accred- iting procedures.....	250.00
May	6	P. H. Costello, travel expense.....	79.63
	6	Ernest Little, travel expense.....	27.85
	6	Townes R. Leigh, travel expense.....	104.42
	6	Robert P. Fischelis, travel expense.....	21.84
	6	R. L. Swain, travel expense.....	28.45
	6	E. F. Kelly, travel expense.....	2.92
	22	A. G. DuMez, expenses for meeting.....	2.30
June	12	L. D. Bracken, travel expense.....	100.00
	12	Selective Service System, subscription to releases.....	3.00
Aug.	23	R. L. Swain, travel expense.....	24.54
	23	A. C. Taylor, travel expense, and R. R. fare for mem- bers of special committee who attended confer- ence in New York with American Foundation for Pharmaceutical Education.....	64.00
			<hr/>
			\$1251.86
Balance			\$4731.26

Report of the Historian

This time your Historian is in the fortunate situation to submit to you a report which is as satisfying as it is flattering to this association.

In the report of the Historian delivered in 1943, the fact was referred to that a questionnaire containing a few fundamental questions as to the history of the individual member colleges had been submitted to the Executive Committee for approval. It was at the special meeting of the Executive Committee held in New York, April 2, 1944, that this questionnaire was discussed and approved. At the end of the same month, on April 27th, Dean B. V. Christensen in his capacity as chairman of the Executive Committee sent the questionnaire to the deans of the member colleges telling them that their "kind cooperation is earnestly requested."

The result was very encouraging. Until the first of August 47 of the 61 member colleges, *i. e.*, about 77 per cent, had answered. Since no answer could be expected from the University of the Philippines, only thirteen colleges, *i. e.*, about 20 per cent, were lagging behind.

On August 18, your Historian furnished the deans of these thirteen colleges with another copy of the questionnaire to be used in case that the first one should have been misplaced or got lost. In his accompanying letter your Historian concluded his solicitation for the information concerned as follows:

"If my report could state a complete compliance of all the colleges united in the American Association of Colleges of Pharmacy with the request of their Executive Committee to furnish some data concerning their history, it would be an excellent proof of the historical consciousness and the discipline of the accredited American colleges of pharmacy."

This appeal resulted in replies by nine more colleges, bringing the total of those who have answered to 56. Hence, besides the University of the Philippines only four of the member colleges have not reacted and there is reason to suppose that they too will follow suit.

More than half of the deans (or faculty members entrusted with this task by the deans) who answered the questionnaire did not restrict themselves to the filling in of the circular letter. They took the trouble of writing letters, sometimes of considerable length, conveying additional information, and of sending to your Historian literature pertaining to the history of their schools.

Most promising was the fact that several deans intimated the intention of publishing a history of their schools. In some cases your Historian was informed that such histories of a rather comprehensive nature are in preparation and that their issuance may be expected as soon as the general situation permits.

The material obtained by your Historian is naturally far from being complete. The data collected up to the present is an excellent start but no more. Since the questionnaire sent out this year was deliberately restricted to a few fundamental questions, other inquiries will have to follow. On the basis of the results of this first attempt your Historian has no doubt whatsoever in the final success.

It is with a feeling of great satisfaction that your Historian extends his best thanks to all who helped him to launch his work: The Executive Committee of the American Asso-

ciation of Colleges of Pharmacy and especially its former and its present chairmen, Deans Charles H. Rogers and B. V. Christensen, and the deans or faculty members of the individual colleges or schools who so graciously complied with the request of the Executive Committee and in so many cases went much farther in their readiness to cooperate as was and could be expected. What your Historian intimated in the part of his letter of August 18, quoted above hypothetically, the historical consciousness and the discipline of the people forming the membership of the American Association of Colleges of Pharmacy, has been proved to be a reality.

Thus in the search for historical facts of the past, we have had the good fortune to discover and make sure a psychological fact of our present which undoubtedly will be one of the most important factors in our actual attempts at shaping the future of pharmacy.

George Urdang

Report of the National Pharmaceutical Syllabus Committee, August 1, 1943, to August 1, 1944

A short luncheon meeting was held on Saturday, Sept. 11, in Columbus, at which time plans for the coming year were discussed.

The chairman was again instructed to solicit the schools and interested persons for comments and criticisms of the outlines in the tentative fifth edition of the Syllabus. This solicitation brought some results and these comments, criticisms, and recommendations, as well as a few recommendations from the district meetings of the Boards and Colleges, will be the order of business at a meeting of the Committee this year.

It is of interest to note that the Syllabus is to be the topic of discussion by deans of the Canadian Schools of Pharmacy at the annual meeting of the Canadian Pharmaceutical Association.

A financial statement is attached.

Henry M. Burlage, Chairman

A financial report, extending from August 1, 1943, to August 1, 1944, is offered:

Receipts

Balance on hand, August 1, 1943.....	\$557.58
Contributions from A. Ph. A., 1944.....	50.00
Contributions from A. A. C. P., 1944.....	50.00
Contributions from N. A. B. P., 1944.....	50.00
Sales of Syllabi, Fourth Edition.....	15.75
Sales of Syllabi, Tentative Fifth Edition.....	29.90
Interest on Savings.....	5.98
Total	\$759.21

Disbursements

Luncheon meeting, Columbus, 1943.....	\$ 11.77
Supplies	3.94
Postage and Envelopes.....	20.43
Clerical	33.73
Mimeographing	63.71
Express66
Total	\$134.24
Balance on hand, August 1, 1944.....	\$624.97

Report of Joint Committee on the Status of Pharmacists in the Government Service

Early in February of this year I was appointed chairman of this committee to succeed Dr. H. Evert Kendig. Dr. Kendig, after six years of splendid work resigned for reasons of health, not however before completing the initial objective of the committee, the creation of the Army Pharmacy Corps. With the exception of the replacement of Rowland Jones by Mr. George Frates, Washington representative of the N. A. R. D., the personnel of the committee remained the same, B. Tappen Fairchild, Frank L. McCartney representing the A. Ph. A., Dr. David B. Johnson, Dr. Henry S. Johnson, Dr. Charles Rogers, representing the A. A. C. P., Dr. Robert L. Swain, A. L. I. Winne, Charles Bohrer, representing the N. A. B. P., Hugh Beirne, Roger W. Lusby representing the N. A. R. D. Thus I was assured the same excellent cooperation that was accorded Dr. Kendig who kindly consented to serve the committee in the capacity of advisory chairman.

Four important problems were engaging the attention of the committee at the time. A bill to reorganize the United States Public Health Service was about to be introduced, negotiations were under way with the Veterans Administration to improve the professional ratings of the pharmacists in this service making them eligible for the higher pay brackets. Negotiations were under way with our representatives in Congress and the Army General Staff to make the Pharmacy Corps Bill operative as soon as practical. An appointment was being arranged with Admiral T. Ross McIntyre, Surgeon General of the Navy, with a Navy Pharmacy Corps or its equivalent as the objective.

In a pleasant interview or rather conference with Admiral McIntyre, the committee's views were presented. Two things particularly were asked—the changing of the name of pharmacist's mate in the Navy to something more descriptive of the duties, and the establishment of a Pharmacy Corps in the Navy. Admiral McIntyre agreed with us that our objectives were sound. Navy administration, procedure and organization he said would make a separate pharmacy corps impractical. But he stated that he was anxious to improve the efficiency of the Navy and that he would work with us toward a common objective. Congressmen Durham and Rivers were with the representatives of the committee at the original meeting with Admiral McIntyre. They too were impressed with the Surgeon General's attitude and stated to us that any legislation that would be the result of negotiation between this committee and the Navy could be successfully passed this year. Since the Navy was definitely opposed to a separate Pharmacy Corps, the success of our own bill must necessarily be a long term program. They would, however, support any action that our committee would take. The Navy's objection was not that they objected to a Pharmacy Corps only but that experience has shown them that any segregation of groups has resulted in a loss of efficiency and has worked hardships on the individual officers.

Admiral McIntyre assigned his deputy, Admiral Sheldon, to work out the problem with us. Our committee appointed a steering committee consisting of Dr. Kelly, Mr. Frates and myself to continue the negotiations, among other duties. Many conferences have been held and views exchanged. The

whole committee has been called to Washington twice to consider the situation and advise the steering committee as to the course they should follow. These meetings were well attended and the actions taken were unanimous. The initial phase of the Navy program is just about completed. However, a bill has been prepared by the steering committee, as they were instructed to do. It was checked by the legislative council of the House of Representatives but held in abeyance pending our discussions with the Navy.

While the Navy situation was under way the problem of the Army Pharmacy Corps also was given our gravest consideration. While many people have been impatient of the slow progress of the development of this corps, we must remember that it took a great many years to place the law on the statutes. Then too several conditions imposed by the war make this reorganization a bit difficult. The examinations in late January for commissions in the corps for the Regular Army were given under great difficulties. The examinations had to be given simultaneously all over the combatant world. Candidates were illy prepared for the examinations. Some came out of combat just to take the examinations. Some because of the remoteness of their situation could not attend the examinations under any circumstances. Some were in transit over seas and could not be separated from their units because they held key positions in these units and could not be spared for the good of the service. In spite of these handicaps it is understood that some 900 pharmacists took the examination. While no official statement has been received it is understood that less than 10 per cent passed the written, physical and capacity examinations.

Weighing these facts, however, at a meeting of the whole committee, instructions were given the steering committee to continue negotiations with the Army, to see that the Pharmacy Corps becomes operative in the Regular Army as provided in the bill, and further extended to the Army of the United States, the present war time Army.

Through Congressman Durham we contacted the General Staff of the Army and we were informed that they could see no reason why the Surgeon General could not proceed should he so desire. The steering committee felt that it was the proper

time to make further representations to the Surgeon General. On July 18th we visited the Surgeon General's Office. General Kirk, the Surgeon General, was in France but his Deputy, Major General George Lull, received us very cordially. Congressman Carl Durham was with us. We had an excellent opportunity to air our views which we presented verbally for discussion and left with General Lull a carefully prepared statement requesting at the same time a written answer.

We recommended forthwith that the 72 officers provided for in the Bill N. R. 997 be appointed promptly.

That we felt that the appointment of 72 officers at this time would not produce a promotion hump, since it is fair to assume that the coming peace time Regular Army will at least be four times as large as the pre-war Army. The figure of 72 officers being based on that peace time Army set up under the national defense act of 1920.

It was further recommended that a Pharmacy Corps be organized in the Army of the United States promptly, consisting of as many officers as may be required for the emergency. These officers could be transferred, we said, from the pharmacists in the Medical Administrative Corps and promotions in the service. These officers in addition to developing an effective pharmaceutical service for the Army would effect economies that will result in savings in the cost of drugs and medical supplies. Their period of war service would qualify them for the peace time Reserve and enable them to teach for some years to come, future officers who are commissioned in the Reserve.

We recommended that previous understandings with respect to assignment of inducted pharmacists to the Medical Department of the Army be carried out. That arrangements be made so that these men will relieve those men of limited experience and training who are assigned to perform pharmaceutical functions.

We further recommended that the Pharmacy Corps in time of emergency and peace be given charge of, and made responsible for, the specifications, purchase, storage, inspection, standardization, distribution and dispensing of drugs and medical supplies.

We reminded the Surgeon General that it was contemplated that these recommendations would be acted upon immediately so that the Army in time of war and peace, will enjoy a safe and adequate pharmaceutical service, directed by competent, experienced and well-trained officers.

The statement of the committee was answered by General Kirk, the Surgeon General, on his return. He stated that our recommendations have been carefully noted and will be considered in the reorganization of the Army. There are certain minor differences he said between the expressions in the letter and the feeling in his office. However, he stated, that he believes that these matters can be ironed out without difficulty.

The whole committee, in studying the matter at the August 21st meeting, considered General Kirk's reply unsatisfactory. They further stated that they thought the Steering committee should answer it promptly and strongly. This has already been done. The committee also felt that our recommendations, in the light of the legislation, should be publicly expressed and that public action be sought. It was suggested that the presidents of the various pharmaceutical bodies write the President of the United States, as Commander-in-Chief of the Armed Forces, calling his attention to the fact that the law was not yet fully operative and that in our opinion the Army is still getting an inferior pharmaceutical service, by reason of the delay in making the law effective, pointing out the fact that a bureau of the government is blocking a mandate of Congress.

Since this conference, 20 officers of the Regular Army Pharmacy Corps have been certified to the Congress of the United States. One of these, we understand, failed to pass the re-physical examination and another has refused the appointment.

I am also glad to report that during the year there have been several important improvements in the Status of Pharmacists in several other government agencies. Public Law 410, H. R. 4624, applies to a reorganization of the United States Public Health Service. Provision has been made in this act for the commissioning of certain pharmacists in this service. While the act does not affect many men at this time it should be reflected more strongly in the future. In time of

peace the United States Coast Guard is a part of this service. It is possible, however, that the post war plans of the United States might contemplate retaining the Coast Guard as a part of the Navy.

In the Veterans Administration we have been able to secure an increase in the ratings of the pharmacist to Professional 2 and have hopes that the rating may be further increased.

To summarize I would say that the Navy situation is developing satisfactorily. There is an unusual degree of understanding between our committee and the Bureau of Medicine and Surgery of the Navy. I feel, therefore, that the objectives of pharmacy in this important field of work will soon be met.

While the Army situation is somewhat disappointing I cannot but feel that the committee has unmistakably made the position of organized pharmacy felt by the War Department and more particularly the Surgeon General's Office. In many other services the key to the status of pharmacy lies in certain rulings and interpretations made by the Civil Service Commission, some progress has been made here as evidenced by the concessions made to this committee by the Veterans Administration which is probably the largest government bureau employing civilian pharmacists.

I would recommend, therefore, that this committee continue its negotiations with the Navy Department to the point that the specifications, purchasing, storage, inspection, standardization, distribution and dispensing of drugs and medical supplies be under the direction of pharmacy officers. That the recommendations of the committee with regard to the Army situation be carried out: The various presidents of pharmaceutical bodies writing the President of the United States as Commander-in-Chief of the Army.

National, State and Local Pharmaceutical organizations continue the policy of sending resolutions of protest to the Surgeon General of the Army and their representatives in Congress. That the public too be informed through proper channels of publicity. That the efforts of this committee be continued until the letter and the spirit of the law is in full operation.

I would recommend that a full study be made of the Civil Service Commission's interpretation of the rulings affecting pharmacists. It would seem that if a proper interpretation was made at this point of existing standards, pharmacy would be entitled to higher pay brackets. This would affect pharmacists in practically every phase of government work.

I would also recommend that the financial support given this committee by the supporting organizations be continued. I doubt if any of our successes could be possible without it. It is important that from time to time the chairman has the benefit of council and advice of the whole committee. It would be unfair to ask these men to come great distances at personal sacrifices without at least paying their expenses.

In conclusion I wish to express my admiration of the splendid leadership of Dr. Kelly whose influence and experience is reflected in every phase of our work and every step along the way. It is impossible for anyone to measure the patient intuitive judgment of this great leader in pharmacy. It is a privilege accorded to few men to have the pleasure of working closely with a man of his caliber. Pharmacy owes much to him. I wish to express my appreciation also to Mr. Bohrer who attended most of the conferences of the steering committee and the visits of the committee to the various government agencies that affected our committee work. During the illness of Dr. Kelly, Mr. Bohrer will replace him as a member of the steering committee—his close association with Dr. Kelly in this work makes him invaluable to the work of this committee. We are fortunate to have his competent direction and advice.

Arthur H. Einbeck, Chairman

Report of the Committee on Scholarships (Endowment)

No matters have been referred to the committee during the year, and there has been no official meeting of the committee.

The Scholarship and Endowment Plan seems to be operating most efficiently and satisfactorily to all concerned which bodes well for the future.

A special committee headed by Dean Jenkins on "Formulation of Policy for Awarding Foundation Scholarships" will make its report independently of this report.

This committee, however, feels that the establishment of the scholarship and endowment plan constitutes a long step forward toward bringing all pharmaceutical interests closer together, toward the promotion of a better understanding between them, and the molding of some common objectives for the profession of pharmacy.

Dr. E. L. Newcomb, secretary of the American Foundation for Pharmaceutical Education, reports that sixty accredited colleges of pharmacy received \$400 each for undergraduate scholarships for 1943-1944. Fifty colleges applied for \$400 scholarships up to September 1, for the 1944-45 allocation. Forty-five sent in report forms No. 1 or No. 2 or both up to September 1, 1944. One hundred twenty-six names of students were reported as having been awarded scholarships up to September 1, 1944, and eighty-seven reports of progress of scholarship students up to that date were made.

This committee recommends for the consideration of the Foundation **the study of some plan for the award of grants to faculty members who desire to complete requirements for advanced degrees or for other specialized training or research.**

The committee desires to thank and commend those whose vision for the establishment of the Foundation is now bearing fruit.

R. C. Wilson, Chairman

Report of the Committee on Post-War Planning

The chairman feels that it is in order to apologize for having to burden the deans and faculty members with the questionnaire which went out from my office on January 27, but the information we hoped to obtain seemed necessary as a

jumping off place for any recommendations the committee might make.

The committee recognized, of course, that practically all of the problems proposed in the questionnaire were controversial in character; and the replies to the questionnaire—some 45 in number—indicate practically no uniformity of opinion on any of the problems—with the possible exception of the accelerated program, refresher courses and placement of graduates. Some of the replies indicate that snap judgment was given, but the vast majority represent sound thinking.

Feeling that post-war problems concern all individuals associated with pharmaceutical education, and not just the deans, we felt that it would be highly desirable to have expressions of judgment from all faculty members, and particularly the younger members. We, therefore, requested that answers to the various questions represent faculty thinking, rather than the opinion of the dean alone.

The material we have received makes most interesting reading, and constitutes, the committee thinks, the best cross-section of pharmaceutical thinking yet compiled. It is our hope that provisions can be made to make copies of these various statements available for all interested groups and individuals.

The committee feels that the present moment constitutes a critical period in the life of pharmaceutical education, and we are recommending some changes in our program which we think are in the interest of pharmaceutical education and of pharmaceutical practice, in so far as the future is concerned. The committee, therefore, hopes that this association will discuss and criticize the recommendations frankly and freely, and that, where changes in the program seem desirable, they be made cautiously and after sound thinking and free discussion.

The items are discussed on the basis of the numbering used in the original questionnaire.

1 and 6. Termination of the accelerated program. While the committee unanimously favors deceleration as soon as possible it does not believe that a definite date for returning to the normal program can be recommended at this time.

This is due to the present unclarified status of the G. I. Bill; the varying conditions and commitments existing in the colleges of pharmacy; the uncertainty with respect to the termination of the war and many other factors on which no decision has been made at this time.

2. Credits to be allowed for courses of study or for experience in the various divisions of the Armed Forces.

On the recommendation of this committee, President Goodrich appointed a special committee, headed by Dean Serles, to study this particular problem, and it is our understanding that a joint committee representing N. A. B. P., A. A. C. P. and A. C. P. E. has been appointed whose recommendations will be presented to the association by Dean Serles.

3. The admission into our schools of pharmacy of young men and women following demobilization or mustering out of the Service for any cause prior to demobilization.

It seems possible that large numbers of these demobilized young people will desire to enter the profession of pharmacy, who will wish to avail themselves of government aid in attending college. Many of them will not have completed their high school program of study, and would not be content to return to the high school for completion of their proper courses.

The committee, therefore, with due sympathy for these young people, but at the same time with due regard for the future of our program of pharmaceutical education, recommends the following: **Resolved, that under no circumstances will our entrance requirements to schools and colleges of pharmacy be lowered.**

4 and 5. The planning for refresher courses for our graduates following their discharge from the Service. The location of our graduates in positions following their discharge from the Service.

Since it has come to the attention of this committee that the standing committee of the A. A. C. P. on Alumni Affairs is considering these problems, we recommend that A. A. C. P. be guided by the recommendations of the standing committee.

7 and 13. Shall our curricula as they exist at present be maintained in the post-war period, thus encouraging a contin-

uation of the practice of pharmacy as it prevailed in the past? If not, is this the time to consider the advisability of requiring at least one year of pre-pharmacy study?

This committee believes that if pharmacy is to occupy its proper place in the public health field a course requiring a year of pre-pharmacy and four years of pharmacy should be put into operation. It is the feeling of this committee that this program should go into effect not later than two years after the close of the war. In the interim the Syllabus committee should be asked to develop a curriculum for the lengthened course.

This committee recommends that a committee be appointed to bring in recommendations next year for the date when this new curriculum may be put into effect.

8. Might it not be well to consider the possibility of coordinating and/or integrating our curricula with those in the schools of medicine, dentistry, public health and nursing, to the end that these health professions may, through proper integration of their specialized training, render a more scientific health service to the public?

The existing system for the health care and health instruction of the American people is so definitely unscientific in principle, as well as in practice, that it represents an incongruity of the greatest magnitude, and, like Topsy, "has just growed." It will forever remain so, unless and until all of the health agencies come to the realization that no one of them can arrogate to itself full responsibility and authority for the health care and health instruction of our people, and to the further realization that the only scientific method of approach is to integrate the highly specialized knowledge and training each of the agencies possesses.

Judging the existing system by any reasonable standard, some progress has definitely been made, but the progress has not been commensurate with the possibilities or with the amount of time, energy and money expended. The system will continue to be unscientific and fail to achieve the best results so long as there is no coordination of thinking and planning on the part of all groups involved in health activities. Coordination of thinking and planning would of necessity in-

volve the utilization and integration of all the highly specialized knowledge in the various fields.

The proper place to begin the process of coordination or integration of specialized knowledge is in the schools where the training for service in specialized fields begins. The existing system, instead of promoting coordination and cooperation among the professions engaged in health activities, has usually promoted discord, not only between the various groups, but frequently within the individual groups, with the result that we fail to achieve the greatest good for the greatest number. To achieve the greatest good for the greatest number should be the first and only aim of any profession.

The thinking lay public is deeply conscious of existing conditions with the inefficiencies and inequities involved—and this is responsible for the introduction of legislation looking toward the socialization of health care in America.

The health professions should have realized that it was their responsibility, in complete cooperation, one with the others, to inaugurate a program of health care based upon the detailed specialized knowledge each one of the professions has; but, so far, this has not been done, the result being that a program is being proposed which does not represent the best interests of the public or of the professions involved.

Your committee in view of the preceding, and further, in view of the fact that the post-war period offers the opportunity and, we believe, the necessity for a recharting of the entire health program, based on a proper coordination of instruction and of practice, **recommends that a committee from this association be appointed to explore the possibilities of the development of a coordinated or integrated program of instruction in all the various schools involved in the training of individuals for practice in any of the health professions—to the end that the independence of each of the professions may be maintained, but each recognizing the fact that each of the health professions is a specialized field in itself, with specialized knowledge which, in the interest of efficiency and of scientific service, should be integrated with that of the others.**

9. How can pharmacy qualify itself for more effective service in the health field?

The answer to this question, it would seem, is intimately

associated with questions 7 and 8, but if pharmacy is to be fully utilized by the public and by the other health agencies, an integrated educational program is absolutely essential. Such an educational program would apply not only to undergraduate and graduate students, but provision would have to be made also for an educational program for those now engaged in retail pharmacy.

One reasonable development, whereby pharmacy might make a proper contribution in the health field, lies in the possibility of training pharmacists in laboratory diagnostic work, the laboratory to be associated with a strictly professional pharmacy. The educational training for work in this field would be superimposed on the undergraduate program of study. The undergraduate program of study would incorporate the basic sciences of value in the training of technicians, such as physics, chemistry, biochemistry, biology and bacteriology.

The rural areas of America are usually entirely without laboratory diagnostic facilities, and the busy medical practitioner, who has been trained to diagnose on the basis of laboratory findings, and to prescribe on the basis of such facts, does not have the time for the maintenance of such a laboratory, nor does he have sufficient training to qualify him for this work. Even if he had the training, it would be utterly impossible for him to keep in touch with the many changes in technique, and in the interpretation of laboratory findings.

It is recognized, of course, that developments along this line would be frowned upon by some existing agencies, but if all such agencies look at the matter unselfishly and think in terms of the greatest good for the greatest number, some common ground can be reached. Your committee, therefore, recommends as follows: **That a committee be appointed to explore all the possibilities as to how pharmacy may best qualify itself for more effective and efficient service in the health field.**

10 and 11. Shall we encourage the admission of relatively large numbers to enter the profession of pharmacy or shall it be our policy to admit a limited number of students and what shall be our criteria in the future in the selection of entering students in our schools of pharmacy?

This committee is unanimously of the opinion that enrollment should be limited. It recommends that a committee be appointed to study the problem and suggest at our next meeting ways and means for a program on limitation.

12. How shall we proceed in attempting to interest the higher quality of students in the study and practice of pharmacy?

If the program for education in pharmacy and the practice of pharmacy is of such character as to make it a highly respectable and respected profession, the highest quality of students will be knocking at our doors for entrance; but, unless and until this happens, we cannot in honesty hold out to them the promise of professional recognition and practice.

The committee again apologizes for the length of this report, and for the possibility that some of these recommendations might come within the province and jurisdiction of other special or standing committees. We want, also, to thank you for your patience and for the splendid cooperation given by the forty-five schools which responded to the questionnaire.

Robert C. Wilson, Chairman

Report of the Editor of the American Journal of Pharmaceutical Education

Beyond the financial statement which is included in the report of the secretary-treasurer it would hardly seem necessary to say anything about the Journal since it comes to your desk four times a year. It is probably one of your most frequent visitors from an area outside of your own bailiwick.

There are some points about the Journal that should be considered more seriously. The subscription list, for example, is practically at a standstill. A perusal of it shows that many men who should be lending support to the Journal are not. Attention was called to this in last year's report with little response. I shall not repent that now.

On the other hand, there are those whose support is inspiring. There are a number of institutions where every

member of the faculty and a number of boards of pharmacy where every member of the board is a subscriber and there are individuals whose attitude toward the Journal is most heartening: For example, Sergeant Earl Mann, a practicing pharmacist of the southwest country, has been a subscriber since the first issue and this year although afloat somewhere in the vast areas of the Pacific, sent ten dollars for five years subscription, in advance. Of the last three subscription received, one came from Mr. Carl D. Lovetti, who operates a pharmacy at 450 Sutter street, San Francisco, California, the second one is for two years and came from Dr. Rafael Nicanor Silva, professor of pharmaceutical organic chemistry at the Central university of Venezuela at Caracas. Dr. Silva is also editor of "Gazeta Pharmaceutica" which is the official organ of the Venezuela Pharmaceutical Associations. During the past years he has been carrying on graduate work at Ohio State University. The third one was from Sr. M. Cusnier, Diagonal Norte 567, Buenos Aires, Argentina. It may be that science and the practice of the health professions, including pharmacy, may in the long run have more to do with hemispheric solidarity than all the oratory that comes out of Washington.

Interest in the Journal is extending beyond the borders of our country and it seems to me it deserves better support on the home front. If any changes can be made in it to make it deserve greater support the editor will appreciate suggestions.

The Placement Service has been discontinued for the duration because there are no individuals to place.

The section entitled Pharmaceutical Education on the March deserves more support than it is given. Many changes and improvements have been made that are not reported. It seems it should be a worth while activity to show what advances are being made in spite of the trying conditions of war.

An effort was made this year to collect and publish in the Journal a list of all scientific and educational papers and texts which appeared from the pens of our faculties for the year 1943, only. The purpose of limiting the list to the year was, of course, to make this an annual feature in some issue. Only a few institutions responded and the list appeared in the July number. It is published with the idea of showing what we

have in mind. A few other schools reported recently and their lists will appear in the next issue or as soon as space is available. Dr. E. V. Lynn as chairman of our newly created Committee on Research has been collecting and compiling the researches of the members of the pharmaceutical faculties, and his report is being looked forward to with interest. Of our effort in publishing annually the researches of the previous year Dr. Lynn makes this statement:

"Your idea of presenting in the Journal a current tabulation of publications by our faculties is an excellent one. Many of the deans list with me research-minded and able individuals who have never contributed, and your list should stimulate them to produce. Supplemented by coordination and suggestions from our committee, I hope we can get them going in the right direction. Furthermore, I hope we can ultimately steer the collective efforts of our faculties toward a cooperative line which will add to the credit and prestige of our association."

You may have noticed through the year an attempt has been made to publish some leading articles in the Journal that come from outside of our group but are stimulating and have a direct bearing upon our work. For example, there was printed in the April number an article on "To What Extent Should Graduate Education Become Functional as Directed to Meeting the Demands in Various (often new) Occupations" by Dean Alpheus W. Smith of the Graduate School of Ohio State University. This article presents the strongest argument the editor has ever seen upon the responsibility of graduate training in the professional field. In the argument Dean Smith never fails to mention pharmacy in connection with medicine and dentistry. No editor can cover the whole field of current literature and this article would have been missed entirely if a member of my own staff, Dr. Arthur E. Schwarting, had not called his attention to a note concerning it in the Ohio State Alumnus. The substance of this article was given by Dean Smith before the Graduate Section of the Land Grant Colleges and Universities at the 1943 convention in Chicago. Dean Smith prepared this article for publication in the American Journal of Pharmaceutical Education at the request of the editor and its publication was approved by the secretary of the Land Grant Colleges. The publication of such articles

as this from outstanding leaders in graduate education will bring administrative support for pharmaceutical education on the graduate level.

"A Commencement Address" by a brilliant lawyer, the City Solicitor of Baltimore, Mr. Simon Sobeloff, in which he enables us to see ourselves as others see us, which is a most helpful experience, would have never got beyond the limits of the City of Baltimore if Dean DuMez had not taken the trouble to send it to me. The address on "The Objectives of the American Foundation for Pharmaceutical Education," pregnant with idealism and sound thinking, by Mr. Edward S. Rogers, chairman of the Board of Sterling Products, Inc., and delivered before the National Association of Chain Stores at French Lick Springs would never have been scanned by the editor's eye if Dr. Robert L. Swain had not sent him the manuscript. Mr. Rogers is a member of the Board of Grants of the Foundation and his article has done much to impress us with the potentialities of the Foundation for good and inspires us with confidence in the Foundation and its work.

"Toward World Democracy," by Dr. Milton S. Eisenhower, president of Kansas State College and brother of General Ike of our fighting forces, is a literary gem. But it is more than that, it is a clear exposition of how little the world understands Americans and points the way to a clear understanding and the basis for a permanent peace in the future world in which we have to live. It was made available to us because it was delivered at the Honors Day Program at the University of Nebraska.

I mention these instances to show what can be done to make the Journal a more effective agent in promoting pharmaceutical education. The finest type of publicity is to publish a journal filled with material that is worth while to read. There are many worth while addresses like the ones named in this report that are never set in printer's ink. You will render a real service to the Journal if you will see to it that thoughtful constructive articles are sent to the editor.

Again I wish to say that to all those who have contributed in any way to making the Journal a worthwhile representative of pharmaceutical education in America, I am most grateful.

Rufus A. Lyman, Editor

Editorials

The Pre-Professional Year

The profession of pharmacy stands to rise only on the strength and the power of the wills of those in whose hands its destiny lies.

Believing that the professional courses in the curriculum, leading to the degree Bachelor of Science in Pharmacy, had been developed soundly and satisfactorily, Kendig, in his presidential address in 1941, declared that the member schools of the American Association of Colleges of Pharmacy are now warranted in taking the first step in a program which will separate the "academic or so-called cultural" subjects from those professional in character and require their accomplishment at the college level as a prerequisite for entrance to the purely professional course.

To this end he recommended that the Problems and Plans Committee give consideration to a pre-professional year of college work to become effective at a practicable future time.

In its report at the Cleveland meeting this year, the Committee on Problems and Plans pointed out that the task of re-vamping, bringing up to date for a newer need, the four-year professional curriculum will be more difficult than to develop the course of study for the pre-professional year. It was said that establishing the work for the pre-professional year should be relatively simple because the pattern of pre-professional training in the health sciences has already been pretty well established. Fundamentally it is a matter of emphasizing the basic sciences and the communication skills, namely reading, writing and speaking.

Some slight modification of the medical or dental patterns may be desirable because of problems peculiar to pharmacy.

It is obvious at once that the revision of the professional curriculum, requiring four full academic years to complete, will require more thought and study so that those subjects which are of decreasing importance may properly be deemphasized, while those the importance of which is on the increase may properly be stressed.

At its meeting this year District No. 5 of Boards and Colleges resolved that now is the time to give consideration to the establishing of a pre-professional year as a requirement for the study of pharmacy. District No. 8 at its meeting also this year urged the American Association of Colleges of Pharmacy and the American Council of Pharmaceutical Education to adopt a pre-professional year at the earliest practicable time but not later than two years following the close of the war. At the 1944 meeting of District No. 7 the question of one year of pre-professional training before starting work on pharmacy at the Cleveland meeting recommended that a committee be appointed to study the matter. The matter came in for much discussion and was apparently looked upon with considerable favor.

The Committee on Postwar Planning of the American Association of Colleges of Pharmacy and to suggest a date at the 1945 convention when the pre-professional year may become effective. The Syllabus Committee was asked to develop a curriculum for the lengthened course.

In other pharmaceutical meetings the pre-professional year has come up for careful consideration with the thought usually prevailing that the time has come when it is indeed a real necessity.

It is safe to say that the progress in medical materials and in the pharmacological sciences of the past two decades outweighs all of the previous progress made since Galen's time.

The knowledge that a pharmacist must now acquire of the products of these new discoveries and new medical materials makes it imperative that four full academic years be devoted to professional training. Anything short of such a program will make it impossible for pharmacy to be on an equal footing with medicine or dentistry.

Obviously in such a program of pharmaceutical education consisting of five academic years the Bachelor of Science in Pharmacy degree must be abandoned, the baccalaureate degree being usually the recognition accorded those who have completed a four year course. Moreover, it is believed by many that the B. S. in Pharmacy degree has not quite provided all that was expected of it since its adoption. Certainly it lacks distinction. Neither is it specific enough, when normal-

ly more than a half a million baccalaureate degrees are given annually in the United States.

It is suggested, therefore, that consideration be given to the degree Doctor of Pharmacal Science for those who satisfactorily complete the five year program—one year pre-professional and four years of professional training. In due time the pre-professional year will of necessity have to be increased to several years of preparatory work at the college level.

R. A. Kuever

The Selection of Students

The substantial increase in the enrollment of new students in the schools and colleges of pharmacy this fall is indicative of the interest that is being focussed upon the profession. Although selective service requirements for young men for military training are just as rigid as they have been during the past two or three years, yet there appears to be a definite up-trend in the student ranks. No doubt prospective college students have been apprised of the acute shortage of pharmacists in the various communities, and through different channels have been presented with the opportunities offered in a pharmacy training. It is significant to note that an increasing number of young women are looking four years ahead to a professional career. Now that a good many discharged veterans are already in college, it would seem that a heavy enrollment will follow upon the termination of the war.

In the future our Association should see to it that the pharmaceutical manpower is kept proportional to the service required. To the accomplishment of this end, our institutions should not be willing to accept high school graduates irrespective of the influences motivating them to study pharmacy. It is a grave injustice to the individual and to pharmacy to accept and graduate a young man or woman who does not show a reasonable promise of success early in his or her professional training. There can be no justification at any time for enrolling merely increased numbers of students into the schools.

The basis of admission for students in pharmacy should be scholastic achievement in the high school and the probability of success in a scientific and professional field. The prospective student should not have to be sold upon the idea that pharmacy offers an opportunity for a gainful vocation but should have within himself the desire to make pharmacy or the training received therein a basis for his life work. Unless the student has the necessary traits of character which fits him for his professional studies, it is a mistake to admit him for training. Possibly the Association should give consideration to a pre-pharmacy year devoted to the sciences and humanities. A first year emphasizing non-professional studies would offer a scientific and cultural foundation upon which the training program would rest. It would furnish a screening procedure by means of which our colleges could select prospective students who had demonstrated their aptitude for a scientific and professional career.

"How many students should the pharmacy colleges graduate annually?" is a question which has had many answers, and upon which it is difficult to get a unanimity of opinion. The number required in the performance of pharmaceutical service and for public health measures would depend upon the limitation requirements of these fields. The broad training program offered by the colleges for the practice of pharmacy has opened various fields of specialization in the health sciences. Based upon the comprehensive training in pharmaceutical chemistry, many graduates go into state and federal food and drug laboratories where they are able to render a valuable service.

Students looking forward to a medical career have found that a premedical training, with a pharmacy background, prepares them well for the study of medicine. Many prospective medical students choose the pharmacy college in preference to that of the Arts and Sciences Colleges. These men and women later as medical practitioners freely point out the wisdom of their early planning.

Regardless of interests in these and other specialized fields our colleges must train young men and women to keep abreast of the progress in the professional and technical fields. This can be best accomplished by selecting only such students who

have shown a sincere interest in a training offered by the profession.

Forest J. Goodrich

During the time that I served as President of the N. A. B. P., I am happy to say that the A. A. C. P. and the N. A. B. P. worked in close harmony and it was a privilege to have had a part in the affiliated work of the two associations.

One of the major important problems of the colleges, it seems to me, is the immediate return to the pre-war four year curriculum, which many of the colleges are doing this year. The war has not yet been won, but we are well past the half way mark, so the colleges should be well into their post-war activities as many of our men are being returned to civilian life now and this number will increase as time goes on.

The step-up from the two year course in pharmacy to the three year course and then to the four year, was very rapid. We now have over 50,000 drug stores and hospitals in the United States. With comparatively few, their major business is dispensing. The colleges might well make a survey of the general situation of pharmacy, as it is now and as it may or might be changed by the war, to see if, or inquire into the advisability of rearranging the curricula to meet the needs of the drug store of today as well as the future.

You can be assured that the boards will not, under any circumstances lower the educational requirements, even though there is talk in some quarters of returning to the two year course.

Many problems will confront the colleges and boards in the post-war period, but I am confident, that through the close co-operation of the two associations, these problems will be disposed of in an entirely satisfactory manner.

May I again say that it was a real pleasure and privilege to have worked with two such fine and cooperative associations, the A. A. C. P. and the N. A. B. P.

A. Lee Adams,

Retiring President, National Association
Boards of Pharmacy

What Is Wrong With Pharmacy?

While President of the American Pharmaceutical Association, I have been traveling over the country to meetings of state and local pharmaceutical organizations and naturally I have had a little more opportunity to see things on the spot, to read the published as well as the unpublished literature of pharmacy and to feel the pulse of pharmaceutical practice in something of an intimate way. One of the bothering queries that I too often come across is the caption of this article; namely, **WHAT IS WRONG WITH PHARMACY?** and it bespeaks a misinterpretation of the services of *real* pharmacy.

My answer and one which I think is based on fact, untethered to undue optimism, is that fundamentally there is nothing wrong with pharmacy. Pharmaceutical service in the United States of America, both to the military and to civilian life, is on a higher plane than it has ever been. In the past few years the broad ministry of pharmaceutical practice, from the corner drug store to the large manufacturing establishment, has earned for itself a record of real service, incomparable to that obtaining in any previously existing period. More prescriptions are being filled than ever; health service is being ethically and soundly dispensed over the corner drug store counter through the medium of that everlastingly useful and loyal minister to public health, the corner pharmacist, and he is proving his worth and meeting his challenges as he never did before.

In Cleveland, at a meeting of the Social Hygiene Group, I heard more compliments than ever over the way in which pharmacists have lent their hand, by and large, to the campaign against venereal diseases. Then, recently, I heard the Federal commissioner of narcotics state that no profession had given his department as little trouble and as much cooperation as the profession of pharmacy. Also will you remember the quinine pool and the participation of pharmacists the country over in the treasury appeals for money and, indeed, with every phase of the war effort. I insist that all of these things constitute a magnificent record and still the question is asked, **WHAT IS WRONG WITH PHARMACY?** May I add a note of intense thankfulness to the pharmaceutical manufacturers all over the country who have stepped up their

production in the manufacture of military medicines in such a way as to gain a warm recognition from official Washington. At no time did any of the pharmaceutical concerns slow down on their job. Nearly all of them are proudly waving their pennants of achievement and why shouldn't they? All thru the intensity of dependable production they have kept the torch of research gleaming.

What, then, is wrong with pharmacy? Furthermore, I recently heard a spokesman for the medical profession very properly elate in public over the fact that practically 50,000 doctors had gone to war to minister to the boys and girls in service and, Lord bless them, what a grand job they are doing. That, of course, left only approximately 100,000 doctors to take care of the rest of us aggregating almost 120,000,000. As something of a humorous but certainly not irreverent aside, may I tell that this same spokesman at another time not much removed from the first occasion, said that the *health of the nation was never better!* In other words, the bulk of the civilian population seemed to thrive rather well under the ministry of only two-thirds of their normal medical service. What is the answer? Can it be the fact that nearly 300,000,000 intelligent prescriptions were written last year and that they were equally intelligently compounded. I leave that for my readers to think about!!

Now let me return to the original premise; namely, WHAT IS WRONG WITH PHARMACY? And I repeat,—Nothing!!! At the same time I will tell you, and without hesitation, that there *is* something wrong with many a *drug store*. What a sad state of affairs it is when a man in the nation's capital, where pharmacy should present its finest front and does so in spots; when a man has to walk over, treading gingerly to avoid physical injury, a lot of garden implements, grub hoes, rakes, forks, trowels, in order to reach the prescription department of that drug store and then finds that the prescription department is a makeshift cubicle which, in size if not in appearance, might well have been out in a farmhouse yard and had a crescent cut into its design. How, under the circumstances, could any intelligent citizen be else than critical of that particular establishment? And how the practice of pharmacy suffers through the undignified front presented by such a drug store.

At another time, though not recently, in a certain drug store in Philadelphia, one almost had to elbow his way, with great physical effort, through a lot of nitwits gathered around six pin ball machines in order to get to the prescription department. What kind of an impression does a prescription or drug customer gain except one of discredit to that particular establishment?

When I relate myself to the painstaking honest work of hospital pharmacists generally, when I think of the ministry of the great chemical and pharmaceutical houses in the supplying of dependable medicinals, when I think of the scientist on the corner, the pharmacist in the neighborhood drug store, fulfilling his mission, ethically, wisely, and kindly I am proud of pharmacy! I had a prescription compounded the other day for my little girl at one of Philadelphia's good drug stores, and I left that establishment, comfortably confident that the contents of the neat package handed to me would do exactly what the doctor expected it to do because I knew that my pharmacist was built that way. I knew that the prescription for my little daughter had been compounded by that honest, earnest man with as much accuracy and fidelity as if it had been intended for his own little daughter and I called his name blessed and I was proud of pharmacy.

Consequently, may I briefly summarize, and all too inadequately, my answer to the question, WHAT IS WRONG WITH PHARMACY? by saying that there is nothing wrong with real pharmacy; but that there are, unfortunately, presented to the public, too frequently and too obviously in some drug stores, many, many reasons for letting the public think that there are basic defects, and queer paradoxes in pharmaceutical practice, and that there are still some practitioners in the field who are willing to sell their honest birthright for a mess of miserable pottage; and at the same time, lessening the estimate and public esteem of their fellow workers in the profession.

The idealism of pharmacy has been expressed in words which have become the creed of the corner pharmacist:

"I am the servant of humanity who responds to a call in the morning, the evening or the noontide, or in the middle of the night. I am the world's utility man. My office hours are any hour of any day in the year. My mission is one of inti-

mate service to humanity. My work is a skilled one on which the well-being of the afflicted depends, and in which there is no place for a drowsy brain or bungling hand, lest they take a human life. I feel the weight of responsibility and note that age is creeping upon me ahead of the years but when I have answered the last call and the long vigil is ended, I think I shall hear the wee small voice saying, "He kept the light of human service burning bright—his whole life long—and this shall be my belonging reward."

Ivor Griffith,
Retiring President American
Pharmaceutical Association.

Facts vs. Pessimism

Few experiences are more dreary than listening to the accounts of past prosperity, related with bitterness. If he who is on the receiving end of such a monologue has pity in his heart, he is sorry for the teller.

Surveys, editorials, and public addresses detailing the loss of face said to be suffered in the eyes of the American public by the profession of Pharmacy, (plus the depressing effect of three long, hard war years), are not conducive to optimism.

In whatever society one's lot may be cast, a realistic view of conditions admits the probability of "downs" as well as "ups." When these occur, the problem is to regain one's equilibrium and then to decide what is the best thing to do next. In any case it is vitally important to *look ahead*, instead of turning the eyes of the mind *back*.

If we take appraisal today of the *product* of our American system of pharmaceutical education as a start in regaining our equilibrium, we find pharmacists serving with distinction as such in the following government agencies: the United States Public Health Service; the Bureau of Indian Affairs; the Food and Drug Administration; the Bureau of Narcotics; the War Production Board; the Office of Price Administration; the Office of Economic Warfare; the United States Relief and Rehabilitation Bureau; and the Committee of the Na-

tional Research Council. After more than thirty years of attempts, a Pharmacy Corps in the permanent United States Army has now been established. Recognition for pharmacy slowly gains ground in the United States Navy; and in the Federal agency listing, where it long was classified as a sub-profession, it now ranks not only as a profession, but carries the high rating of P-2. So much to correct the often-heard statement that pharmacy is not appreciated by Uncle Sam.

In civilian practice, more than 250 million prescriptions were filled during 1943, and it is safe to state that this figure will be further increased for the current year, in spite of the fact that from 15 to 20 per cent of our trained pharmacists are with the colors, and so far as I can learn, with no deaths resulting from malpractice.

In the national war emergency our colleges of pharmacy have seen, first students, then staffs, fade from their campuses to take important places in war service, all the way from work in research laboratories of expanding pharmaceutical manufacturers to the battle fronts. With heads unbowed, colleges of pharmacy, under the strain of accelerated curricula, loss of staff and loss of finances, have struggled to maintain their institutions intact for the days that lie ahead when peace comes.

What has happened in the world of commerce through the tremendous growth of our drug manufacturing capacity is well known to all. America stands today as the Drug Arsenal of the World.

Can anyone, having read this far, find cause for pessimism?

Why then do we have pessimists in pharmacy? Is it because so many are overwhelmed by the complex problems involved in the *immediate future of pharmacy*? I believe it is.

Then what are we going to do about it?

Obviously the beginning of all pharmaceutical practice starts with *our colleges* which prepare the personnel for *all* divisions of the drug industry. The problems of our colleges, therefore, are those that must come up first for consideration. Certainly, from the record quoted earlier in this article, they have done well academically for those who came through their gates up to now. Reason enough for optimism.

What are the problems of the colleges now? High up on the list is the financial status of each institution. National efforts *representing every branch of pharmacy* have taken steps to ease this strain through the American Foundation for Pharmaceutical Education. Surprisingly enough, most university corporations have made it known that they will not discontinue their schools of pharmacy, in spite of the great loss in students. State legislatures are continuing to maintain sufficient budgets to permit other colleges to continue. Faculty losses will cause some concern to some institutions, but this problem will be solved.

The traditional complaint that the present curriculum does not adequately prepare graduates for retail practice continues to furnish a problem. This can be serious, if not studied in the light of the returning G. I.'s, who will to some extent expect (through their federally-subsidized-education legislation) to be "processed" back from army life to efficient civilian practitioners. This "processing" appears to divide itself into three parts: first, the G. I. who was a licensed practitioner previous to his army service, who will need "refresher" training; second, the G. I. army-made pharmacist, who needs academic study to meet his deficiencies; and third, the veteran who has become interested in pharmacy through observation and who must be exposed to full academic training.

To accomplish this, the curriculum may have to be made more elastic, permitting more specialized training in the different fields of pharmacy, and made more streamlined for those who need varying amounts of training. The Army has given to its veterans of the above two classifications, in most cases, a fast, concise and intense education in fundamentals. Practical experience has come quickly in the field, where military depots often were more populated than many of our large cities and all pharmaceutical service was funnelled into one dispensary. These returning veterans will require, if they are to be interested in further college training, the same type curriculum they found serviceable in the army. Failing to get it, they may attempt other methods for entering civilian practice.

Perhaps the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy have

conducted inspection visits to these Army, Navy and maritime training schools and have made a definite appraisal of their status in relation to accepted academic curricula of our schools of pharmacy, so that proper units of credit may be established there for Army and Navy pharmaceutical training. It would be reasonable to expect that a similar inspection of dispensaries at camps in this country has been made and units of credit decided upon for those who have been so trained.

This question of the veteran returning to pharmacy practice is one of the most urgent problems today and one that, when solved, should be given wide publicity, to relieve the tension of the men on the battle fronts and the practitioner on the home front. Such a proclamation by those entitled to speak for pharmaceutical education would establish immediate confidence in our educational system and its ability to cope with the future problems that may be anticipated. Such confidence, proceeding from the educational field of our profession, *would produce optimism* that would spread through each section of pharmacy until it permeates the whole.

Before summarizing this article I must lay stress upon its necessarily incomplete nature, due to limitation of space. I shall hope at some later time to point out the great need for *extending* the pharmaceutical curriculum *culturally* and through *specialized graduate study*. This *long range* problem is only second in importance to the *immediate* problem which this war has so greatly intensified and which I have primarily been discussing in this article.

To summarize: This writer feels that the profession and the industry as a whole need the lift that accompanies confidence in the future. This optimism must start where the training of the profession begins, and in this capacity the colleges have a great responsibility as well as a fine opportunity to serve the profession. A well-defined program, based on factual data of definite and irrefutable character, and the establishment of basic units of credit for pharmaceutical training in the armed forces can furnish confidence to the whole profession and industry, if given wide and frank publicity. Such confidence, once established, will provide the optimism needed by pharmacy. Every pharmacist well knows that every tick of the clock moves the hands ahead toward the time when these problems must be solved. The future belongs to

those who step out to meet it. Will American pharmaceutical education lift the bushel from over its light to let this optimism shine over pharmacy as a whole?

George A. Moulton,
President American Pharmaceutical
Association

THE MENACE OF BORIC ACID TO BABIES

Some time ago one of the editor's friends down Connecticut way sent him a newspaper clipping telling how in a certain hospital located in that center of culture some one had again substituted boric acid solution for dextrose in the babies diet with the result that seventeen became seriously ill and five of the seventeen died. This is not the first time this has happened in hospitals. As a matter of fact, it has happened frequently enough so that one begins to look for it in the morning paper wondering where it will happen next, something like looking for the next airplane crash.

It seems in this case the coroner made an investigation and absolved anybody from criminal negligence but that did not bring back the five babies nor can we convince ourselves that it gave much comfort to their parents. It seems in these latter days in hospitals that boric acid has developed an abnormal sex appeal for dextrose to the detriment of the babies. Why this happens only in hospitals is an enigma. We have never heard of a baby in a home having been given boric acid as a food and we have never known of a retail druggist getting boric acid mixed with the baby's dextrose. All of which may mean that the home may be a safer place to have babies than the hospital. Already we sense a reaction against hospitals by prospective mothers who want to be sure they are taking home their own babies. They fear getting their babies mixed but after all a mixture of babies is not as serious as a mixture of babies with boric acid, at least for the babies. We do not know who was responsible for the Connecticut tragedy but unless hospitals find a way to prevent these tragedies we will feel compelled to create a new slogan, namely, "The menace of hospitals to babies." A long time ago we created a slogan "The menace of women to pharmacy." The war has abrogated this accusation against women. It may become necessary now to reverse the slogan and make it read "The menace of pharmacy to women (and the home)." If the babies reverse their slogan it may read "The menace of babies to the hospital, at least to the obstetrical ward." If the babies carry their point the obstetrical ward will become obsolete. Since in this Connecticut case the victims were all children of naval personnel it seems this might well be a problem of the Navy. Perhaps the Navy can do something to prevent these tragedies. I am sympathetic with hospital managements because I superintended a student infirmary for twelve years and I am familiar with the enormity of their problems. Nevertheless there is no legal or moral justification for these baby tragedies. They must stop.—Editor.

The President's Page

There are many problems to be solved in pharmaceutical education. The progress that has been made in the past will be continued through our able committees which have been appointed. One of the most fruitful starting places for any committee is a survey of the previous recommendations that have been sanctioned by resolution but have never become effective because of inaction. If organizations would only accomplish well a part of what they resolve to do, rapid progress would be made. It is the responsibility of each committee to continue to repeat, emphasize and insist that realistic action be taken on recommendations which are approved.

In the space allotted to me in our valued Journal I hope to present thoughts on some of our most pressing educational problems from time to time. Since it has been proposed that The Pharmaceutical Syllabus outline a required curriculum, I shall write briefly relative to this problem.

The Pharmacy Curriculum

The pharmaceutical curriculum has been the apple of discord thrown regularly into the midst of every pharmacy faculty and every other group interested in pharmaceutical education. It has had its share of praise and criticism. It has become something of a fetish to be guarded or molded by the quasi departmentalized members of our faculties, by boards of examiners, and by other interested parties. In part it symbolized our efforts to treat in a short time of training all that science and learning have contributed to the knowledge, preparation, and distribution of medicines.

Our curricula are neither wholly good nor wholly bad. They are simply a compromise effort on the part of those looking backward and those looking forward in the field of pharmacy. The most evident defect is the inelasticity and the fact that certain compartments of pharmaceutical knowledge have been set up "with vigorous and sincere guardians, who spend more time defending the walls of their cells than they do in making honey." The curriculum in a pharmacy school should be fluid, responsive, progressive, and always ahead of the present. For the most part it is static, inflexible, and full of antique methods, ideas, and procedures. Its futility is disclosed

by the continuous attempts to legislate or require specific courses as well as their content and the number of hours that shall be devoted to them. It is only natural that the first concern of pharmaceutical education has always been with the teaching of accumulated experience, consisting of facts and theories, or, in brief, the subject matter of pharmacy. About this aspect of the teaching of pharmacy has centered most of the current discussion of the curriculum, and in the presence of an overabundance of subject matter, which has always confronted pharmaceutical education, and always will, it is manifestly impossible to determine the ideal subject matter content of a pharmaceutical education. That a single schedule of courses is not universally acceptable is abundantly showed by the diversity of curricula in the various schools, and by the growing trend toward the abandonment of the secondary school type of fixed curriculum which has been carried over into colleges and universities.

So far as subject matter is concerned we need not so much a new curriculum as we need a new attitude toward the curriculum. Let us admit that there is no such thing as an ideal curriculum. Whether or not we agree with those who over a half century ago argued that it is not necessary to cover the entire subject matter in lectures and that it is sufficient to stimulate the student to pursue his studies independently, it should be apparent that the fixed curriculum is contrary to all principles of higher education and that a freedom of election within the individual school comparable at least with the diversity of subject matter taught in the various schools and by various instructors in the same subject could be adopted without endangering the structure of pharmaceutical education.

The quiz compend and the recitation course have been prominent in pharmaceutical education. They are disappearing but they still exist. They are pernicious and subversive to the achievement of the true aim of pharmaceutical education. Their only object is to cram facts into students. They do not have a place in the modern school of pharmacy. But the quiz compend and the recitation course are only an exaggeration of the overemphasis on subject matter which is characteristic of our pharmacy schools. The first duty of our schools is to shift the emphasis from subject matter to the intellectual processes of the student. The need is emphasized by a study

of the Pharmaceutical Syllabus. If the generally accepted basis that the semester hour represents three hours of work, including time spent in lecture, recitation, laboratory and preparation each week in the semester, it is evident that the so-called average student must devote from 54 to 57 hours per week to specified subjects. In addition courses required by certain schools, such as physical education and military training, bring the work week above the sixty hour level. The below average student presumably works correspondingly longer hours on his studies. Aside from our subject, it is difficult to reconcile these facts with the claims by some schools that they maintain high standards while their students work a 25 to 40 hour shift in drug stores.

An approach to the ideal curriculum of 3200 clock hours might be attained by having: (a) 1600 hours or 50 per cent of required specified subjects, (b) 800 hours or 25 per cent of technical electives from which each school would select the courses to be given, and (c) 800 hours or 25 per cent as electives to be determined by each student and within each school according to its facilities. That this flexible curriculum should require certain basic and applied subjects necessary in the acquisition of a body of knowledge so that the student would be well sualified to practice pharmacy goes without saying. Such subjects as physics, zoology, and entomology might be grouped under the technical electives and the non-technical electives might include a large variety of subjects designed to meet the needs of the individual student. We must always keep in mind the fact that the body of knowledge in use by any graduate at any time in any of the various practices of pharmacy is constantly shifting, and that such knowledge as is acquired or can be acquired by the pharmacy student during his pharmacy courses bears only a slight relationship to that which he acquires and puts to use later in life. Efforts to overcrowd the curriculum lead to superficiality, to inaccuracy, and to mediocrity on the part of faculties as well as on the part of students. A flexible, uncrowded curriculum is needed to permit students to lay the ground work for future specialization, to permit progressive schools to incorporate new subjects into plans of study, and to permit some liberty within which each school may seek to develop the intellectual powers of its students.

Glenn L. Jenkins

The Editor's Page

"O Lord God, we commend this nation to Thy merciful care that, being guided by Thy providence, we may dwell secure in Thy peace.

"Grant to the President of the United States and to all in authority, wisdom and strength to do Thy will. Fill them with the love of truth and righteousness, and make them ever mindful of their calling to serve this people in Thy fear. Stretch forth Thine arm to strengthen and protect the armed forces of our country. Support them in the day of battle and in the day of peace. Keep them safe from all evil, endow them with courage and loyalty, and grant that in all things they may serve without reproach.

"May we beseech Thee, with Thy gracious favor, for all the universities and colleges and schools and their representatives here assembled, that knowledge may be increased among us, and all good learning flourish, and grant that in all humility we may ever look unto Thee who are the fount of all wisdom, and do Thou direct us, O Lord, in all our doings, to Thy most gracious favor, and further us with Thy continual help, that in all Thy works, begun, continued and ended in Thee, we may glorify Thy name, and finally, by Thy mercy, obtain everlasting life. Amen."

Again did our beloved Dean Gordon L. Curry open the 1944 convention of the American Association of Colleges of Pharmacy with an invocation in which the supplications were as eloquent as they were sincere. Again the setting had been made for an harmonious convention and one pregnant with accomplishment. In that we were not disappointed. There were three outstanding things that gave character to the convention of 1944. First, the tense atmosphere and the almost mob spirit that characterized the 1943 meeting had disappeared. Men were themselves again and could think sanely. Mob spirit, like war spirit and sorrow, can only be assuaged by time. In this instance time did a good job. All strong minded men will never be of the same opinion. There will be no progress when they are. But bitterness is never conducive to progress.

The second fact that gave character to the meeting was the consensus of opinion that acceleration was a detriment to pharmaceutical education. No voice was raised in its defense. As a matter of fact no member of the association group has ever championed acceleration as a peace time measure. Dean Ernest Little who has often been accused of fostering acceleration unduly in its incipency never thought of it in any other terms than as a war measure as the reports to his board of trustees show. Even the War Manpower Commission thought of it only as a war measure. This point ought to have been stressed more than it was all along the line. When the American Association of Colleges of Pharmacy accepted acceleration it should have been more potently emphasized that it was a war time measure, only. At any rate acceleration became an outcast long before the Cleveland meeting. It was dead not only with the educational group but with the boards of pharmacy and, best of all, with the retail druggist as well.

A third fact that characterized the meeting was the sentiment that was practically universally expressed, namely, that prepharmacy training and the revamping of the professional curriculum is in the offing in the aftermath of the war.

We have departed from our usual practice in printing in the October Journal only the proceedings of the annual meetings and the paper given at the general session by including in the current number the results of a study by Dean C. H. Rogers and Dr. P. O. Johnson on the effect of acceleration upon the scholastic standing of students in the University of Minnesota. While it may be said and the authors grant that the study is too limited to give reliable results it certainly indicates that the trend is toward a lower scholastic achievement. Educators and practitioners alike have long ago been convinced that speed and short cut methods are not conducive to good scholarship and profound understanding. The human mind is not a mechanical device that can be forced like a machine in a war production plant or a rose under hot house conditions. Even the machine and the rose suffer under such treatment.

It may be due to the presidential campaign or it may be due to some other cause but just now the post war pharmacy planning in pharmaceutical education (and perhaps in other fields) seems to have bogged down. Perhaps what happens in a military campaign is happening on the educational front. There comes a time when it is necessary to rest one's arms, straighten and consolidate the front, bring up the supplies, study the efficiency of the plans to date and make changes if expedient for the future progress of the campaign.

Already there is a sizable number of discharged men returning home from the battle fronts and there is no indication that these men are rushing to the college centers for "refresher" courses. Their first concern is their home, their business, the practice of their profession and their job. In some cases these men have had experiences which would enable them to teach us in "refresher" courses. The question yet remains to be settled as to whether these men will, in any considerable number, want these "refresher" (which is a synonym for "cram") courses. Again only time will tell. Already there are signs that the "refresher" course idea is a concoction of our own imaginations and not a demand of the ex-service man and already there are signs that in our own imaginations the length of such courses is dwindling from a few months to a few weeks and in many cases to a few days. In these latter days men in every field of pharmaceutical endeavor have become infected by a long-range program streptococcus of the most virulent type and in no field is such a program so essential as in the educational. Rather than to dilly dally along with "refresher" courses we better devote our attention to stressing the basic sciences and revamping our professional curriculum in a way that will keep pharmaceutical education and practice abreast of the practices in the other health professions. Here is a job that challenges our ability and capacity to attain. If this objective can be reached we can well afford to forget "refresher" (how I dislike the word) courses.

Repeatedly many of the most thoughtful men engaged in pharmaceutical education have expressed concern at the possible danger of overselling pharmacy to the youngsters of high

school age. There is little danger of overselling it to the public because the public is going to continue to draw its own conclusions as to what pharmacy is from the appearance of the local drug store and the kind of service he gets at that store. The only danger is stressing the importance of pharmacy to the public is that we may make ourselves ridiculous in the public eye by claiming things that the public does not see in practice. The claim that the drug store is a public health institution when it has every appearance of a liquor store just does not make sense to the intelligent layman. Dean R. A. Kuever of the State University of Iowa has pointed out that in his own state pharmacy is being sold to boys and girls of high school age and has warned that this may become a boomerang which will be felt immediately and last for decades. The editor also has the feeling that pharmacy is being over sold to young women. In times of war we need these young women badly but in times of peace we need them most of all in the home. The present increase in delinquency is easily traceable to motherless homes where children run the streets while mothers work in stores and factories and shops. Three of my own daughters became pharmacists and practiced pharmacy before they had homes of their own but when the day came when they had their own they left pharmacy for the greatest profession in the world for women, that of home building.

While we all believe in a proper amount of dignified publicity which does not mislead, we are convinced that Dean Kuever is right when he says any publicity program should be extremely modest and exercise due care not to oversell pharmacy to boys and girls of high school age.

On another page of this issue Dean George E. Crossen raises a pertinent question when he asks "To Whom the Message of Pharmacy Week?" The message of Pharmacy Week has been and is directed to the public. We think Dean Crossen is right when he intimates that it should be directed to the druggists themselves. Professional reputation cannot be built by propaganda. It is something that can be built only by the druggist himself, not by what he says but by what he does.

To the writer, Pharmacy Week has never been a joyful experience because as we celebrate it the thought will slip in, "Is a pharmacist a professional man and the drug store a public health institution only one week out of the fifty-two and is he a mere merchandizer for fifty-one."

When the druggist conducts his establishment so he will be recognized as a professional man fifty-two weeks in the year then Dean Crossen says that special observances will be as unnecessary to pharmacy as they are to the other professions and in this Dean Crossen is right.

On the last day of October, the Omaha Pharmaceutical Association held its annual one day round table discussion program at the Hotel Paxton. It is both refreshing and inspiring when one sees the druggists in a metropolitan city close their stores at one o'clock for the rest of the day to attend a program rich in educational values. The convention hall was packed with local and out-state druggists and the program was in the hands of the versatile John McPherrin of the American Druggist and the panel was composed of such capable men as Tom Couchman of Des Moines, H. W. Adkins of Milwaukee, E. P. Gannon of Rockford, Illinois, and Joe Shine of Chicago. The program was as helpful to a schoolmaster as it was to a practicing druggist.

At the evening dinner a scroll was presented to Mr. Emil Cermak commemorating his 51 years of service as a distinguished citizen and practicing druggist in the city of Omaha. Neither was the younger generation overlooked for a scroll was also presented to Mr. Carl Sipherd for his service to professional pharmacy in his city and because of his civic interests, especially his service to young people groups in his community. An award was also made to Kyle H. Taylor, secretary of the association, for his tireless efforts in promoting the association's work and objectives. This is the kind of publicity that counts both with the public and with the profession.

In a recent number of *Science* is a news note calling attention to the objectives of the American Foundation for Pharmaceutical Education and that already three-quarters of a

million of a five million dollar fund had been raised. This again is the kind of publicity that pharmacy needs and on an educational level that will be most helpful.

It is always helpful to see ourselves as others see us. It is just as helpful to see our needs as others see these needs. For that reason the editor asked the privilege of Dr. Oppenheimer, vice-president in charge of medical research of Ciba Pharmaceutical Products, Inc., of publishing a letter in this issue's Gleanings from the Editor's Mail he recently wrote to Dr. Harald Holck. Dr. Oppenheimer's advice, if followed, would add tremendously to the prestige of pharmacy and increase its field of usefulness. What he says deserves thoughtful consideration.

In the October 14, 1944, number of the Journal of the American Medical Association is a comment upon the policy of Department of State's program intended to develop intellectual cooperation among the republics of the western hemisphere. Science service will conduct a project the objectives of which is to supply funds to enable publishers in all the republics to translate books written in English into Spanish, Portuguese and the reverse, and to assist publishers in printing and distributing these translations throughout the hemisphere. Such a project is very much worth while in bringing about hemispheric understanding and good will as has been evidenced in our own field by the translation and publication of the United States Pharmacopœia in the Spanish language.

The passing of a brilliant young man on the threshold of a great career always seems a tragedy and it would be if there were not some of us who can believe that this world was planned and every man has a job to do and when that job is done the Creator of the universe takes the life for another purpose and leaves us shadowed even more deeply by the mystery of life. And the more science reveals the greater the mystery deepens and we must fall back on our faith in the Divine. And so we regret the passing of Alexander John Schwarz but the remembrance of this intelligent, hopeful, lov-

able young man will forever be a benediction and an inspiration for us to carry on.

"And when they had sung a hymn they went out." After that experience there was nothing else human beings could say. With the passing of Dr. Kelly there is nothing that can be said that measures up to the occasion. The most universally beloved man in American pharmacy is gone but his influence will affect pharmacy for the better, for generations. No finer monument could a man leave behind him. May we all do our job as faithfully and efficiently as did he!

Rufus A. Lyman

NOTICE—RENEWALS NOW DUE!

Most subscriptions expire with the October issue of the Journal. If yours does send a check for renewal to Secretary-Treasurer, Prof. Clark T. Eidsmoe, Division of Pharmacy, South Dakota State College, Brookings, South Dakota. This will save the Association the expense of sending out statements as well as conserve the Secretary-Treasurer's time.

If your subscription expires at an odd date it would be a great convenience to the officers to arrange your subscription next time to conform with the volume which always is completed with the October number.

We especially appreciate the thoughtfulness of those readers who have paid their subscription from two to five years in advance.

With best wishes for a joyful holiday season and a prosperous New Year.—The Editor.

Gleanings from the Editor's Mail

I just got back to New York and this is the first opportunity that I have had to write you to express my appreciation for the publication of the speech that I gave at French Lick in your Journal. I also want to thank you for the very kind editorial comment and what you said to me about the speech in your various letters. The ghastly impudence of a mere lawyer presuming to give an address on pharmaceutical education appalls me, and makes me appreciate very much what you and some of my other friends have been good enough to say about it. I hope that we may meet sometime before long so that I may express my gratitude to you in person.

September 5, 1944

EDWARD S. ROGERS

Recently it has been my good fortune to take time out from the daily routine of pharmaceutical life to casually and with pleasure to look over some back numbers of your publication.

In the October 1942 issue, page 543, a reference is made to a "Pharmacy Career Booklet." I realize that much time has passed since this booklet was published but am writing you in the hope that you could still supply me with a copy of such a booklet or at least give me some information as to just where I might obtain a copy of it.

Your journal is indeed a fine publication and it is next to impossible to say how much I have enjoyed reading these back numbers. It has been a stimulant for me to seek the current issues and give them my full attention.

Trusting that you may be in a position to obtain the desired material for me and many thanks for your attention in this matter.

Halifax, N. S.
August 10, 1944

J. ESMONDE COOKE
Maritime College of Pharmacy

I am the professor of Pharmaceutical Organic Chemistry at the Central University of Venezuela (Caracas, Venezuela), as well as the editor of "Gaceta Farmaceutica," official publication of the Venezuelan Pharmaceutical Association.

Because I came to this country (U. S.) to take some post-graduate work at this Ohio State University, I have had the opportunity due to the kindness of Dr. L. David Hiner, to know your American Journal of Pharmaceutical Education.

Before going back to my country (Venezuela), I should like to take a subscription of your publication, but I have no idea how much I should pay for it since I want that subscription sent to Caracas, Venezuela. Your publication shall be very interesting to me, because I am planning to spread general knowledge about the organization of the

American universities and their teaching systems, through the publication if which I am the editor.

Therefore, I beg you to write to me telling how much must I send to you to get that subscription.

Columbus, Ohio
August 21, 1944

DR. RAFAEL NICANAR SILVA

The Ministry of Education of China, as well as the Ministry of Health and other government departments have for some time past been discussing plans for the development of education and industry on a large scale during the next ten years as mentioned in Generalissimo Chiang Kai Shek's book "China's Destiny."

These plans are naturally on a large scale in so vast a country and with so tremendous a population as has China in its rebirth as a great modern nation among the great nations of the world after this war. They are vitally important and far-reaching in that they have an important bearing on present and future good international relations both culturally and commercially.

The plans concerning pharmaceutical education include the establishing of several new colleges and schools of pharmacy as well also as a number of departments of pharmacy where colleges and schools are not feasible. In preparation for these institutions it is of course necessary to undertake the training of a considerable number of teaching staff personnel. In this connection it is hoped that a number of selected Chinese pharmacy graduates from this University and other institutions teaching pharmacy should go abroad for at least a year or two of post graduate study in U. S. A., Canada or England. These, then, on return to China would be among the leaders in developing the program of modern pharmaceutical education and practice in this country.

It will readily be seen that herein lies a great opportunity (and I consider it also a privilege) for Western Pharmacy and especially the colleges and schools of pharmacy in U. S. A., England and Canada to have a share in influencing the "shape of things to come" in the matter of modern pharmaceutical development in China by helping at this time in the training of these future leaders.

China has suffered much and long because of this war and it will be extremely difficult and indeed practically impossible to put these important plans into practice for a long time to come without the help of Western friends of pharmacy interested in its welfare. Because of this, and because of the unique opportunity to help build up pharmaceutical education and practice in China, as already mentioned, it would be very much appreciated if each of several of the colleges of pharmacy in the U. S. A. could arrange to offer scholarships for several of our West China Union University pharmacy graduates covering their expenses for a period of one or two years of post graduate study in America. There are several pharmacists whom we could gladly recommend, both men and women, and who desire to avail themselves of such an opportunity when offered.

In view of the above I will greatly appreciate it if you will give this matter your kind consideration and let me know at your early convenience if you can find it possible to arrange to offer one or more of the scholarships desired and to what extent they would meet the financial needs of the recipient. The following two questions would cover what we here wish to know as our guide in this connection:

(1) Could you offer one or two scholarships to Chinese graduate pharmacists for post graduate studies in America for a period of two years which would cover all ordinary expenses including cost of travel?

(2) Could you offer one or two scholarships to Chinese graduate pharmacists for post graduate studies in America? If unable to pay all expenses as per question #1 to what extent might these be provided for in the matter of (a) Cost of travel, China to U. S. A., (b) Tuition, board, (c) Incidentals such as clothing.

Chengtu, West China
July 3, 1944

E. N. MEUSER
West China Union University

(To Dr. Harald Holck)

But I am writing you to take up another question, and I do so because of the general interest your school has in the education of pharmacists. I read through the copy of the *American Journal of Pharmaceutical Education* you gave me with the kind regards of the editor. Now I am really sorry that I did not meet him. I would like to have gotten his reaction to one specific point.

There is much talk these days about the reform of pharmaceutical education, but as far as I can see more gravy and dressing are discussed than essential meat. But I do not want to impress you as being superficial. I know how difficult the situation is, and that all improved training and increased knowledge does not help much and is of little value for the majority of pharmacists who serve half their time behind the prescription desk and half behind the soda fountain.

I wonder whether anybody ever thought, or at least has ever spoken his opinion that the pharmaceutical industry has a specific need for well trained pharmacists. The education as given now seems to prepare a pharmacist to be only a good salesman for a commercial house, on the road. Pardon me, I speak in general terms. I know that the industry has several excellent leading personalities, who came from pharmacy and have proven that their education was good enough to bring them into key positions. If a man has common sense and an inherited understanding for commercial needs, he can make his way with any kind of training he gets. The training is sufficient for him to educate himself. But the industry can consume more pharmacists in other lines than the purely commercial one. There is a definite need for bibliographic, literary work, copywriting, etc. A sound knowledge of pharmacology as it is given in the course and any other fundamentals are a satisfactory base for that type of work, but I believe one thing is completely neglected, namely, training in how to use books, journals, how to use the library, how to organize it, etc. The least one should

teach them is a kind of sincere respect for literature, and therewith of fundamental investigation. Do they learn that in pharmacy schools? I may be wrong, and that is the reason I am asking you. I am sure that a big stream of young pharmacists could be directed into the industry, if they had learned something in the literary field. They need not study medicine in order to understand medical literature and to make use of it in a critical way, if they learn to read scientific papers, to gather and assemble the literature on a certain topic, to make bibliographies, annotated and otherwise, and particularly to make abstracts. What cannot be taught, of course, is how to use the literature for specific purposes. That is an individual feature which one has or does not have. However, something which would help in this line is to have a pharmacist learn to act as editor, even if this knowledge were acquired only on a small local students' or college paper.

Right now we could use one or two young pharmacists who have a complete command of the English language, who can write letters which will make a dry topic interesting, who can read medical literature, who can separate critically what can and what should be used from that which should not, and who have at least some ability for organization.

Did I read correctly in your letter that someone wants to relegate the laboratory part of bioassay to graduate students? It is unbelievable. That would be just the contrary of reform. Instead of making a better, more solid, and more fundamental education, it will become just the opposite. With what material does this gentleman want to feed the undergraduates?

Summit, New Jersey
August 8, 1944

E. OPPENHEIMER, M. D., Vice-President
in charge of Medical Research, Ciba
Pharmaceutical Products, Inc.

MARRIAGES

William Benica, University of Minnesota (now in the Navy), and Betty Pilch of Bloomfield, New Jersey, on July 24, 1944, at Bloomfield.

NEW IN THE FAMILY

Cheryl Dean Thayer.—Born July 10, 1944, daughter of Prof. and Mrs. James R. Thayer, St. Louis College of Pharmacy.

Thom Dennett Carpenter.—Born September 14, 1944 son of Prof. and Mrs. Paul Carpenter, College of Pharmacy, University of Illinois.

Stanley Douglas Witt.—Born September 3, 1944, son of Dr. and Mrs. Norman F. Witt, University of Colorado, College of Pharmacy.

William Lloyd Hazleton.—Born August 20, 1944, son of Dr. and Mrs. Lloyd W. Hazleton, George Washington University, School of Pharmacy.

Stephen Arthur Schwarting.—Born October 30, 1944, son of Dr. and Mrs. Arthur E. Schwarting, University of Nebraska, College of Pharmacy.

Notes and News

University of Colorado, College of Pharmacy.—Harry L. Starburg, who resigned from the staff to accept a position at the Paradise Valley Sanitarium at National City, California, has been added to the staff of the College of Medical Evangelists at Loma Linda.—Edward C. Christensen, formerly assistant in pharmacy, has been commissioned as ensign in the merchant marine and is serving as medical officer on a ship in that service.—By action of the Executive Council of the University, the Council on Armed Forces Services has been created for the purpose of considering all problems relating to veterans returning to the University from the armed forces. Professor O'Day represents the college of pharmacy, while Professor Witt is the pre-medic representative on the Council.

University of Connecticut, College of Pharmacy.—The twentieth school year opened on September 26 with 50 entering freshmen, half of whom are women. All new students were given the scholastic aptitude tests as required by the University.—The accelerated program was discontinued with the beginning of the fall semester.—Nicholas W. Fenney has been advanced to the rank of assistant professor of pharmacy. Professor Fenney is now engaged in graduate work in the field of public health at Yale medical school. He is serving on the advisory committee on pharmacy to the State Selective Service. He is a Grand Counsellor of Kappa Psi and a facultate fellow of the American College of Apothecaries.—Leo J. Collins, class of 1943, was among the first eighteen to be commissioned a second lieutenant in the newly established Pharmacy Corps in the regular Army.

Duquesne University, School of Pharmacy.—The fall term opened with a freshman registration of twenty-four which is only six less than the institution accepts in normal times.

Ferris Institute, College of Pharmacy.—Mr. J. B. Vauhn has resigned to accept a position with the Cincinnati College of Pharmacy. Mr. Roland Healy has been appointed to fill his place.—Mr. Ralph M. Wilson, M. S., University of Oklahoma, replaces Mr. Howard Hopkins as dean. Mr. Hopkins has accepted a position with the Smith-Dorsey Company, pharmaceutical manufacturers of Lincoln, Nebraska.—Prof. Fred R. Clark, M. S., University of Michigan, takes the place of Dr. Albert C. Smith who has gone to Ohio Northern.

University of Florida, School of Pharmacy.—Several faculty members and graduate assistants devoted the summer to teaching chemistry to ASTPR students.—The beginning pharmacy class is larger than the preceding group but smaller than prewar classes. The upper classes are very small.—A set of the Proceedings of the American Pharmaceutical Association was donated to the school of pharmacy by W. J. Trevaskis.—In cooperation with the Florida Forest and Park Service, five hundred pounds of cajuput leaves grown in Florida were submitted to steam distillation. The essential oil is now being investigated.—The Ladies Auxiliary of the Florida State Pharmaceutical Association has given the school of pharmacy the sum of fifty dollars for books and journals.—

The scholarships of the American Foundation for Pharmaceutical Education have been given to James D. Hendrix and Florida May Carlson.

Fordham University, College of Pharmacy.—The Dr. Otto F. A. Canis Memorial Pharmacy will feature a series of window displays designed by senior students throughout the year. The general theme of the displays will feature the part pharmacy plays in the public health program.

George Washington University, School of Pharmacy.—Mrs. Anna S. Riley and Mrs. Rita E. Durand have been appointed research associates in pharmacology.

University of Illinois, College of Pharmacy.—Walter Shasha, instructor in physics, has resigned to join the A. B. Dick Company.

State University of Iowa, College of Pharmacy.—Marjorie L. Moburg resigned as chief pharmacist on September 1 and Harry W. Austin, who has had several years' experience in the pharmacy, has been appointed in her place.—Delpha L. Donner, who for a number of years has been employed in retail and hospital pharmacies, became assistant hospital pharmacist on October 15.—In President Hancker's proposed building program for the next two years, he has included an item of \$250,000 for a new pharmacy building.

University of Kansas, School of Pharmacy.—Dr. Roy A. Bowers spoke before Alpha Chi Sigma recently on the topic "Some Derivatives of Phenylethylamine Used in Medicine."—Marilee Hughes and Geneva Ruth Laman have been awarded the American Foundation for Pharmaceutical Education scholarships for the current semester.—On September 28, Kappa Psi sponsored a reception for faculty and old and new students.—A display of Burrough-Wellcome packaged products has been added to the display case.

Long Island University, Brooklyn College of Pharmacy.—On September 20, twenty-six graduates received the Bachelor's degree. The first, second and third scholarship awards were made to Bernard Seifest, Gandolfo Virga, and Howard Leventhal, in the order given.—A freshman class of thirty students entered on September 21.—Sister M. Jeannette, 1909, is the first pharmacist to receive the Dr. J. Leon Lascoff Memorial Award for the most outstanding contribution to professional pharmacy during the year. Since graduation she has been pharmacist at Mary Immaculate Hospital, Jamaica, Long Island.

Louisville College of Pharmacy.—Beginning with the freshman class, entering October 16, the school returned to the non-accelerated program. All other classes will continue instruction through to mid-June on a split semester basis.—An emergency fund drive for the college, sponsored by the Kentucky Pharmaceutical Association, has been completed. Active solicitation is at an end and although some pledges are still to be paid it appears that the effort has been successful and it is particularly gratifying that most of the funds have come from Kentucky pharmaceutical interests, college alumni and store owners.—Intensive work on state high schools has been carried on to obtain a finer type of student for pharmacy and the state American Legion office has agreed to supply lists of Kentucky service men as soon as they are released from the armed forces. This may be the source of many desirable prospects.

Massachusetts College of Pharmacy.—The Ledere Laboratories have established a cooperative research fellowship for the investigation of physostigmine-like compounds. The study is being made by Dr. E. V. Lynn and Joseph D. Matthes.—Arthur Douropulos, secretary of Harvard University's Committee on the Use of English by Students, has been appointed an assistant in language instruction.—At the October commencement, twenty-eight students received the Bachelor's degree and eight the Master's. Seven degrees were conferred *in absentia* because the recipients were serving in the armed forces.—Prof. Carroll B. Gustafson was chairman of the Summer Conference of the New England Association of Chemistry Teachers which was held recently at the Connecticut College for Women in New London.—The fall session began on September 7 with forty-seven freshmen, seventeen of whom were women.—With the graduation of the present senior class on June 20, 1945, acceleration will end in this institution.—Profs. Bradley, Stoklosa, and Ohmart took part in a symposium recently before the Connecticut Association for the Advancement of Professional Pharmacy at New Haven. The respective topics discussed were "The Nature of Measurement," "Dispensing Stains and Reagents" and "Accuracy in Dispensing."

University of Minnesota, College of Pharmacy.—Thirteen students were graduated at the August commencement.—Frank De Gangi and William Benica, former graduate students, are ensigns in the Navy.—Robert H. Miller and Akira Asano have been awarded the Melendy graduate fellowships for the coming year.—Dr. Donald Buelow, post graduate fellow, has accepted a position as research chemist with the W. J. Stange Company of Chicago.—Sixty students, half of them girls, enrolled at the beginning of the fall quarter.

University of Montana, School of Pharmacy.—Recently Dean C. E. Mollett addressed the Exchange Club of Butte on the subject "The Drug Store, Yesterday and Tomorrow."

University of Nebraska, College of Pharmacy.—Dr. Arthur E. Schwartz has been placed in charge of a drug plant project sponsored by the Nebraska Chemurgic organization. \$2200 has been allotted for the carrying on of experimental work in drug plant culture for the coming season.—The American Foundation for Pharmaceutical Education scholarships have been awarded to Bernice Kimble, Helen Ullom, and Clem Stone.—Charlotte Cox, a sophomore student who held a regents scholarship during her freshman year based upon the excellence of her high school record, has won a Gus Prestegaard scholarship in open competition for the excellency of her scholarship record in the freshman year.

Ohio State University, College of Pharmacy.—Dr. Earl P. Guth has been advanced in rank to a full professorship.—Woodrow R. Byrum has been appointed to the faculty with the rank of instructor.

University of Oklahoma, School of Pharmacy.—Librarian J. H. Rader of the university library has recently presented to the pharmacy library sixty-one bound volumes of the Journal of the American Medical Association.—Professor Ina Griffith recently addressed the Kingfisher Study Club on "The Big Three Among Life Sources." The lecture covered

penicillin, the sulfa drugs, and blood plasma.—The pharmacy library has taken a collective membership in the American Institute of the History of Pharmacy, a connection that will increase its potentiality as a service institution.—The American Foundation for Pharmaceutical Education scholarships have been awarded to Will Purnell, Jr., Bobbye Ashley, and Louise Pope.—Beginning with the fall term, the university returned to the two semester plan.

Oregon State College, School of Pharmacy.—The retirement of Dean Adolph Ziefle has been announced by the Oregon State Board of Higher Education. Dean Ziefle has been granted a year's sabbatical leave from October 1, 1944, after which he will return to the campus on an emeritus status.—Enrollment in pharmacy for the fall term shows a 65 per cent gain over last year and is the largest departmental gain in the institution.

Philadelphia College of Pharmacy and Science.—The fall term will begin October 30. Students may major in pharmacy, chemistry, bacteriology or biology. Due to acceleration upper-classmen have been attending classes all summer. All four classes will complete the next academic year by mid-July 1945. It is probable that acceleration will be abandoned at that time.—Assistant Dean L. F. Tice spoke recently before the Media, Pennsylvania, Rotary Club and Dr. Paul C. Olsen addressed the Federal Wholesaler Druggists' Association in New York in September.—In response to a great demand, the college will conduct a three-day refresher course for practicing pharmacists sometime after the first of the year. This refresher course will be patterned after the four such courses which have been given during previous years.—Dr. Donald P. LeGalley, director of the physics laboratory, is now undertaking research for the government and has been assigned to a laboratory in Texas.—Research projects now underway are under the sponsorship of Sharp and Dohme, Magnus, Mabee and Reynard, Inc., R. J. Strassenburgh Co., Mellon Institute and the Frank H. Lee Company.—The R. J. Strassenburgh Company of Rochester, New York, established a research grant for the study of the chemistry of vegetable drugs by Dr. Nathan Rubin.

Purdue University, School of Pharmacy.—Dean Glenn L. Jenkins addressed the annual convention of the Wisconsin Pharmaceutical Association in Milwaukee on September 24, on the subject, "Pharmacy, a Factor in Public Health."—Hugh C. Vincent, Ph. D., 1944, has been appointed to an assistant professorship in pharmacy at Washington State College.—Herman O. Thompson, Ph. D., also of the 1944 class, has been appointed assistant professor of pharmacy in the University of Georgia.—Kennie M. Linn has been awarded the Lilly Fellowship. Since graduation in 1938 he has been assistant manager of the All-India Mission Tablet Industry, Bowringpet, India.—P. R. Rasanen, S/2c, who was an instructor in pharmacy prior to his induction into the service, writes that much of the work seems quite elementary to one who has nearly completed the work for the Ph. D. degree.—Dr. D. C. Brodie has resigned from the instructional staff in order to accept a position with the University of Rochester, School of Medicine and Dentistry where

he will continue in specialized training and research in biochemistry on a war project.—Courses have been regrouped in order to create a specialized field of instruction directed toward the training of undergraduate and graduate students for hospital and industrial pharmacy. The supervision of this work will be under Dr. H. George DeKay.—Milton L. Neuroth, a Purdue Research Foundation Fellow, has been appointed an instructor in pharmaceutical chemistry.

St. Louis College of Pharmacy.—The fall term began October 9, with an enrollment of seventy-five students, twenty of whom are women.—Ellen A. Gruenenfelder and Lois Louise Dallman have been awarded the American Foundation for Pharmaceutical Education scholarships and the St. Louis Wholesale Drug Company's scholarship has been given to Hilliard R. Duckworth.—Dr. Frank L. Mercer, 1935, has replaced Dr. Albert H. Musick as instructor in botany and pharmacognosy. Dr. Musick has gone to the University of Tennessee.—Harold A. Harper, a senior, placed second in the recent A. Ph. A. essay contest on "How to Improve the Professional Status of Pharmacy."—The newly organized student branch of the A. Ph. A. has forty-six charter members.—Three radio talks have been given recently on pharmaceutical subjects by Dean Schlichting, Instructor Rabe, and Alf. W. Pauley of the board of trustees.—Dr. Robert G. Sanders has been appointed an instructor in bacteriology.—Monthly luncheons of the alumni association are being held at the Forest Park Hotel under the direction of Mr. Rabe who is also the editor of the "Alumnus," the official news publication of the association.—Dr. Noel Ferguson, formerly professor of botany and pharmacognosy, is now chief research chemist for Hess & Clark, Inc. of Ashland, Ohio.

Temple University, School of Pharmacy.—Dr. James C. Munch who has served as director of research has recently been appointed head of the department of pharmacology in the school of dentistry. He will also keep his connections with pharmacy.

Medical College of Virginia, School of Pharmacy.—Jean Weber, 1943, has been appointed pharmacist and instructor in hospital pharmacy in the Medical College of Virginia Hospital.—Ralph Tolar has been appointed resident in pharmacy.—Six seniors, five men and one woman, were graduated at the September commencement. Governor Broughton of North Carolina was the speaker.—The annual Mortar and Pestle-Rho Chi banquet was held September 15 with President Sanger as the main speaker. Joyce Robinson and William A. Niermann were initiated at that time into Rho Chi. J. Frank Jackson won the Society's award for the best thesis and Carron M. Keys was awarded the Rho Chi medal for the highest scholastic average in the freshman class.

State College of Washington, School of Pharmacy.—Despite the loss of more men to the armed services during the summer, an appreciable gain in total enrollment over a year ago has been made at the start of the new school year. The largest gain has been made in the freshman class with forty-three students.—Dr. H. C. Vincent, assistant professor of pharmacy, has returned to the faculty after a leave of absence for two years for study at Purdue University.

University of Wisconsin, School of Pharmacy.—Dr. Louis W. Busse has been granted a leave for the first semester of the current year in order to serve with the War Production Board at Washington.—Lt. Col. Lloyd M. Parks is serving in the Chemical Warfare Service of the Army in Italy.—There is an encouragement in the size of the enrollment for the fall semester. Several veterans are among the enrollees.—The Wisconsin Pharmaceutical Association is to be commended for having established twelve scholarships for pharmacy freshman and one for an upper classman.

Resolutions Affecting Education

The following resolutions were adopted by the National Association Boards of Pharmacy in convention in Cleveland, Ohio on September 8, 1944:

"WHEREAS, the continuation of accelerated courses in our colleges of pharmacy seem no longer demanded, and

"WHEREAS, it would seem in the best interest of pharmaceutical education to reestablish the four-year prewar curriculum, therefore

"BE IT RESOLVED, By the N. A. B. P. that it earnestly recommend that the accelerated courses be discontinued at the earliest feasible date."

"BE IT RESOLVED, That administrators of colleges of pharmacy be informed of our belief that faculty members should have practical experience in Pharmacy, especially those faculty members teaching practical pharmacy subjects."

"BE IT RESOLVED, That we recommend to our College and University Schools of Pharmacy that credit allowed to returning Veterans of World War II be as generous as practical in keeping with recognized standards of pharmaceutical education."

At a Cleveland meeting of the Syllabus Committee it was agreed to eliminate the involved titles of Chemistry and Pharmaceutical Chemistry when it is used in a connection with a basic course, i. e., General and Inorganic Pharmaceutical Chemistry will not be called General Chemistry. Also, the titles of the two courses, Advanced Pharmacy I and II will now become the Pharmacy of Medicinal Products I and II.

Miscellaneous Items of Interest

Memorials

ALEXANDER JOHN SCHWARZ

Dr. A. John Schwarz, associate professor of pharmacognosy and chief of the division of pharmacognosy and basic subjects of the school of pharmacy, University of Tennessee, met accidental death when he came in contact with a live wire at his home on the morning of September 5, 1944.

Alexander John Schwarz was born at Chilton, Wisconsin, on December 31, 1898. His earlier education was obtained at St. Mary's Parochial School, Chilton High School, and Campion College. He graduated from the University of Wisconsin with Senior Honors in June, 1922, with the degree of Bachelor of Science in Pharmacy. From 1922 through 1926, he was botanist and pharmacognosist to Eli Lilly and Company. In February of 1927, he returned to the University of Wisconsin as research assistant to Dr. Edward Kremers. In August of the same year he was offered the Swiss Exchange Fellowship for study under Dr. Alexander Tschirch at the University of Bern, Switzerland, but declined to accept a position as assistant professor and head of the department of botany and pharmacognosy of the University of Tennessee. He twice obtained leave of absence in order to complete his graduate work at Wisconsin, and was awarded the Ph. D. degree in September, 1931. Upon his return to the University of Tennessee, Dr. Schwarz was advanced to an associate professorship. When the division of pharmacognosy and basic subjects was created in 1937, Dr. Schwarz was named the chief.

Dr. Schwarz took an active part in the affairs of the A. Ph. A., the A. A. C. P., and the Plant Science Seminar. He served as secretary and as chairman of the section on pharmacognosy and pharmacology, and as vice-chairman and chairman of the Plant Science Seminar. He was a delegate to two pharmacopœial conventions and a member of the revision committee of the U. S. P. XII. He was a member of Sigma Xi, Rho Chi, Phi Sigma, Kappa Psi, Alpha Chi Sigma, American Pharmaceutical Association, Tennessee Pharmaceutical Association, and the Tennessee Academy of Science. Among his publications are the following: The Water-Soluble Volatile Constituents of American Peppermint Oil; Heptane and Other Hydrocarbons of Petroleum Nuts; A Cryptogamous Study of Reelfoot Lake; An Historical Study of Digitalis; Methods of Standardization for Digitalis; A Chemical Study of the Fat of the Leaves of Digitalis; Revision of Wright's Guide of the Botanical Drugs of the U. S. P. and N. F.

Dr. Schwarz was a man of many and varied interests. An accomplished pianist himself, he was actively associated with the Memphis Symphony and Beethoven Club. Patrons of the Little Theater knew him as a player of no small ability. His college enthusiasm for athletics continued throughout the years in Memphis, where he was long identified with the functions of the Big Ten Club. Abundant life that he lived, Dr.

Schwarz never lost his early Christian training, but was always a faithful and ardent supporter of the church.

Familiarly known as A. John, Dr. Schwarz loved people and they more than returned this affection. He possessed an effervescent personality and was always the moving spirit in any group, be it professional or social. Thorough and painstaking as a teacher, he was respected and admired by his students who frequently sought his counsel relative to personal as well as academic problems. Further indicative of the esteem of his students is the fact that for many years he was sponsor of Psi Chapter of Kappa, and held the national office of Grand Historian at his death. His untimely passing is additional evidence that good things pertaining to body and soul are not subject to the laws of conservation as are energy and matter.

In his honor, the A. John Schwarz Memorial Loan Fund has been established at the school of pharmacy of the University of Tennessee by his many friends.

Karl J. Goldner

Harold A. Jeskey

EVANDER FRANK KELLY

On October 27, 1944, Evander Frank Kelly, secretary of the American Pharmaceutical Association and one of pharmacy's most able, respected and beloved leaders, died at his home in Texas, Maryland.

Dr. Kelly was born in Carthage, North Carolina, July 2, 1879. He received his preliminary education in a private school conducted by his father, and the Agriculture and Mechanical College at Raleigh, North Carolina, which he attended for one year. He entered the Maryland College of Pharmacy in 1900 and was graduated with honors in 1902. Almost immediately after completing his pharmaceutical education, he associated himself with the firm of Sharp & Dohme, manufacturing pharmacists of Baltimore, Maryland, and continued in the employ of this firm until 1911, at which time he resigned to devote all of his time to teaching in the Maryland College of Pharmacy, now the School of Pharmacy of the University of Maryland, with which institution he had been associated since 1903. In the latter year, Dr. Kelly was appointed an assistant in the pharmacy laboratory, in 1906 he was promoted to associate professor and in 1917 to full professor. He was made dean of the pharmacy faculty in 1918 and served in this capacity until 1926, when he accepted appointment as secretary of the American Pharmaceutical Association and his status was changed to that of advisory dean.

Early in his career, Dr. Kelly became interested in association work—a type of work for which he proved to be exceptionally well fitted by virtue of his modesty, self-command, tact, native shrewdness and the possession of a keen sense of humor and an unusual amount of common sense. He served as secretary of the Maryland Pharmaceutical Association from 1907 to 1942, as secretary-treasurer of the National Drug Trade Conference from 1926 to 1934, as treasurer of the

American Pharmaceutical Association from 1922 to 1926 and as secretary from 1926 until his death.

Although he gave all of his time to association work during the last twenty years of his life, Dr. Kelly's interests were many and varied. He served as a member of the Maryland State Board of Health from 1920 until his demise. He was, for many years, a member of the Committee of Revision of the Pharmacopœia and was serving as president of the board of trustees of the U. S. Pharmacopœial Convention at the time of his death. He helped organize the American Council on Pharmaceutical Education in 1932 and served as its first and only president. In addition to the foregoing, he cooperated with various governmental agencies in assisting to solve the many pharmaceutical problems arising from the war emergency and he took an active part in promoting federal legislation designed to improve pharmaceutical service to the military forces and the public.

In spite of the fact that pharmaceutical education was Dr. Kelly's main interest in life for a comparatively brief period, extending from about 1917 to 1926, he made several valuable contributions to this field of endeavor. He was largely responsible for the merger of the old Maryland College of Pharmacy with the University of Maryland and its subsequent merger with the institutions which now constitute the state University of Maryland. It was also mainly through his efforts that the standards in pharmaceutical education in Maryland were raised to their present level. His advocacy of high standards in pharmaceutical education while serving as secretary of the American Pharmaceutical Association and his membership on the American Council on Pharmaceutical Education, helped greatly to establish confidence in the movement to advance our standards in pharmaceutical education and to gain general support for the program which was adopted. Further examples of his contribution to this field are to be found in the National Standard Dispensatory, of which he was a co-author, and in the fourth edition of Caspari's Treatise on Pharmacy, of which he was the editor.

Dr. Kelly's contributions to pharmacy were generally recognized and as a result he was the recipient of many honors, among the more important of which may be cited the following: The honorary degree of Doctor of Science, conferred upon him by Temple University in 1933, and the Remington Medal, pharmacy's highest award, which he also received in 1933.

In summing up, it may be truly said that Dr. Kelly served all branches of the pharmaceutical profession. His services to state and national pharmaceutical organizations were outstanding and his constant attention to all matters pertaining to the advancement of pharmacy and his alertness in defending pharmacy's interest are well known. His readiness to speak in their behalf and to give advice and counsel when requested, imposed heavy burdens upon him and no doubt helped to shorten his life.

In his passing, pharmacy has lost a great and good leader, and those of us who knew him intimately a good and kind friend.

ANDREW G. DUMEZ

The American Institute of the History of Pharmacy, Inc.

Proceedings of the Meetings Held at Cleveland, Ohio,
Hotel Cleveland, September 8, 1944

1. Council Meeting

President Arthur H. Uhl had named a committee consisting of Dean B. V. Christensen, chairman, and Deans C. H. Rogers and H. H. Schaefer to suggest names for two vacancies on the Council, one of them also to be third Vice-President. The committee presented the name of Mr. A. J. Horlick of Racine, Wisconsin, for the office of third Vice-President. Mr. Horlick has shown great interest in the objectives of the Institute since its founding and has supported it generously in its critical days. Dean Forest J. Goodrich of the University of Washington, who has shown great interest in the work of the group and who represents the whole far western country, was named as the other Council member. The selections of the committee were unanimously approved.

2. Fourth Annual Meeting

The Council meeting was followed by the fourth annual meeting. It was the second meeting since the incorporation of the Institute. Under the Constitution the annual meeting has to be held on the first Thursday of April. This meeting was therefore considered as a continuation of that meeting.

A. President's Report

I am glad to be able to report to you this year, as I have done in the past, that the American Institute of the History of Pharmacy has continued to make definite progress. That this progress has not been in a single area but in several, is the interesting and encouraging feature of the building up of this organization. Because of the general conditions throughout the entire civilized world, some of our work had to be "put aside" for the present. This work, however, will be resumed or completed, as the case may be, just as soon as conditions permit.

I

As you know, the Institute enjoys the privilege of being affiliated with the American Pharmaceutical Association. During the past year it has become affiliated with the American Association of the History of Medicine also. We have since the beginning enjoyed extremely cordial cooperation with this association and the expression of unity of purpose manifested in our affiliation is but the confirmation of an established fact which, we hope, will become a pattern for the relations between medicine and pharmacy on the whole.

At the last election of the History of Science Society our Director, Dr. George Urdang, was elected a member of its council for a three-year term. This is the first time pharmacy has been represented on this coun-

cil, and here too a fact has become manifest which should be self-evident but all too often has been clouded, the place of pharmacy in the development of civilization.

When a Civil Affairs Officers-Training School was established on the campus of the University of Wisconsin by the War Department, the Institute was happy to give for the duration of instruction the services of its Director who lectured on public health, public relief and public welfare in Germany. Thus we were in a position to lend something of substantial value to the war effort.

By way of passing may I call your attention to a very interesting fact which to me illustrates the growing interest in the historical aspects of our profession and the necessity of the proper development of the work of the American Institute of the History of Pharmacy. One of the two books which during the last decade have exerted the most beneficial influence on American pharmacy was accorded to the vote of the majority of the deans of our schools of pharmacy a text on the history of pharmacy. We may also feel complimented by the fact that the Director of the American Institute of the History of Pharmacy was co-author of this text.

II

Last year a donation of \$2,000 by Mr. A. J. Horlick was noted in my report. This year, in January, Mr. Gustavus A. Pfeiffer, chairman of the board of trustees of W. R. Warner and Company, expressed his appreciation of the work and the aims of the Institute by sending unsolicited the sum of \$2,500 for its maintenance.

The Wisconsin wholesale druggists donated \$2,000. Abbott Laboratories supported the Institute with \$500 and promised the same amount for 1945. Mr. Oscar Rennebohm donated sufficient money to have prepared for the Institute informative folders to be used in contact work. A student group, Eta Chapter of Rho Chi, aided by contributing \$125.00 to be used for publication purposes.

I must also make mention of those who supported the Institute by membership and especially those who helped by maintaining supporting memberships with an annual fee of \$25.00.

During the latter part of May, our Treasurer and Director spent a few days in Detroit visiting several individuals belonging to one or the other branch of pharmacy. The results of their endeavor were interesting and these men feel they made definite progress in bringing the work and necessity of the Institute to the attention of those concerned.

III

The coming year should prove to be as interesting and challenging as the one just going to be completed. Some of the problems demanding our consideration are:

a.) Our By-Laws provide for the granting of medals for particular pharmaceutico-historical contributions of outstanding scholarly merit and for a paper on a historical subject prepared by a student of one of

our pharmacy schools. Furthermore, a lecture by a guest speaker at our annual meeting is provided for in our By-Laws. I shall appoint committees to study the possibility of providing for these features at an early date.

b.) Plans are being formulated whereby graduate study in the field of the history of pharmacy in its scientific as well as its social aspects can be carried cooperatively between the American Institute of the History of Pharmacy and the University of Wisconsin.

c.) We are looking forward with considerable anticipation to the realization of a very generous promise made to the Institute by Burroughs Wellcome and Company on the instigation of the Director of the Wellcome Chemical Works, Tuckahoe, N. Y., Dr. Carl J. Klemme. May I quote from a letter which Dr. Klemme wrote to the Director of the Institute under date of December 17, 1943, in which the Conservator of the Wellcome Historical Museum in London was quoted as follows: "... a suitable collection of such objects (of pharmaceutico-historical interest) will be set aside for the American Institute of the History of Pharmacy; when this has been done and it is possible to send the objects over to America, I will arrange to have this material forwarded to you so that you may hand it over to Dr. Urdang."

The Wellcome Museum in London is known as containing the most comprehensive collection of pharmaceutical historical objects in the world and has many duplicates. If only a part of these duplicates would be given to the American Institute of the History of Pharmacy—and they certainly will—it would form more than a beginning of a very valuable visual means of pharmaceutical education and information. Since Sir Henry Wellcome was born and educated as a pharmacist in the United States of America, this transfer of a part of his collections would mean a kind of "homecoming."

IV

Let me conclude this factual report by quoting a statement published in the Bulletin of the History of Medicine in May, 1944, by one of the most outstanding contemporary historians of medicine, the Director of the Johns Hopkins Institute of the History of Medicine. Dr. Henry E. Sigerist. Reviewing the brochure on Carl W. Scheele issued by the American Institute of the History of Pharmacy last year, Dr. Sigerist wrote as follows:

"It seems to me that an Institute of the History of Pharmacy has today a particularly important function to fulfill. It not only helps us to obtain a more complete picture of the history of civilization but can also greatly contribute to maintaining the dignity of a profession that is threatened by various forces. In this as in other fields the historical analysis paves the way that leads into the future."

B. Report of the Secretary

In the absence of the Secretary, Mr. Jennings Murphy, the Director of the Institute. Dr. George Urdang, gave a brief report on a meeting of officers held at Milwaukee, Wisconsin, on January 7, 1944, on the initia-

tive of Mr. Murphy and devoted to the question of the budget and the financial support of the A. I. H. P., and on the meeting held at Madison, Wisconsin, on April 7, 1944, of which this meeting is a continuation. Dr. Urdang paid tribute to the helpful interest of Mr. Murphy who in his capacity as Secretary of the Wisconsin Pharmaceutical Association and as Editor of the Wisconsin Druggist has never failed to bring the work of the Institute to the attention of the Wisconsin druggists.

C. Report of the Director

The time between the 1943 meeting of the A. I. H. P. and this 1944 meeting saw the world at the height of the bloodiest conflict ever known. It is understood that every human endeavor in whatever field of civil activity had to be subordinated to the supreme purpose of winning the war.

It is for this reason that the issuance of two publications intended to be contributed to the members of the Institute during the first nine months of 1944 had to be delayed. The one, a booklet on "American Pharmaceutical Documents 1643 to 1780," has been postponed because of difficulties in getting it bound. The other, a facsimile reprint of the first issue of the London Pharmacopoeia 1618 prefaced by a rather comprehensive introduction (about 90 pages), has been in type for quite a while waiting for the paper to print it.

It is understood that with the war still going on the annual Seminar of the A. I. H. P. again had to be cancelled.

I. Course at the Civil Affairs Officers-Training School

Fortunately, on the instigation of Dr. Uhl, the Director of the Institute was given an opportunity of making an immediate contribution to the war aims of the United States of America.

During the entire period of instruction (November, December, 1943, and January, 1944) offered at the University of Wisconsin to Civil Affairs Officers supposed to administer European civil affairs behind the progressing allied armies, the Director gave lectures and conducted seminars on the actual situation in public health, public relief and public welfare in Germany and its historical development as compared with the United States of America.

It can be hoped that this instruction helped to create that kind of understanding that must become general if a lasting and real peace is to be established.

II. Contributions to the Members of the A. I. H. P.

The members of the Institute received:

A reproduction of a Sixteenth century painting showing Cosmas and Damian, the Patron Saints of Pharmacy (Christmas, 1943);

Proceedings of the meetings held at Columbus, Ohio, on September 10, 1943. Reprint from *Am. Journ. Pharm. Ed.* 7, 1943 (No. 4, October);

A brochure, "The First Wisconsin State Board of Pharmacy, A Play";

A reprint of a paper "Birth Bicentennial of Famed Pharmacist: M. H. Klaproth," published in the *Journ. Am. Pharm. Assoc. Pract. Ed.* 4, 1943 (No. 11, November);

A copy of *Pharmaceutical Archives* 14, 1943 (No. 3, May) containing the article "The Reagent Bottles of William Procter, Jr.";

Copies of *Pharmaceutical Archives* 15, 1944 (No. 2, March and No. 3, May) containing the article "How Chemicals Entered the Official Pharmacopœias";

A reprint of a paper "Pharmacy and Aviation," published in *Bulletin of the History of Medicine* 15, 1944 (No. 3, March).

III. *Articles by the Director (not mentioned above)*

Furthermore, there appeared the following articles on pharmaceutico-historical subjects:

"C. W. Scheele Still Helps Pharmacy," *The Wisconsin Druggist*, 11, 1943 (No. 9, September);

"Credit to Pharmacy," *Chem. and Eng. News* 21, 1943 (No. 17, September 10); *The Wisconsin Druggist* 12, 1944 (No. 1, January); *Amer. College of Apothecaries Bull.* 4, 1944 (May);

"Is the Concept 'Pharmacy' to Be Changed?," *The Wisconsin Druggist* 12, 1944 (No. 4, April);

"R" (where does this sign come from), *The Wisconsin Druggist* 12, 1944 (No. 5, May);

"Quinine Synthesized," *The Wisconsin Druggist* 12, 1944 (No. 6, June);

"The Caduceus," *The Wisconsin Druggist* 12, 1944 (No. 6, June);

"Compressed Tablet" (Centennial), Fall 1943 pharmaceutical issue of *Abbott's What's New*;

"Quintessence, The Story of Extracts," Spring 1944 pharmaceutical issue of *Abbott's What's New*;

"Freedom of Pharmacy" (Pharmacy in Nazi Germany), *American Druggist* 108, 1943 (No. 3, September);

"In 1618 British Pharmacists United" (survey on the development of pharmacy in Great Britain), *American Druggist* 108, 1943 (No. 4, October);

"International Pharmacy" (The American point of view on the question of free practice of pharmacy as expressed on the International Pharmaceutical Congress held in Paris in 1867). *American Druggist* 108, 1943 (No. 5, November);

"The Development of American Pharmacy" (the beginnings of pharmaceutical legislation in the U. S. A.), *American Druggist* 109, 1944 (No. 1, January);

"The Retail Drug Store, Cradle of the American Pharmaceutical Industry," *American Druggist* 109, 1944 (No. 2, February);

"How Pharmacy Has Protected the Public Health" (the decisive part played by American pharmacy in the fight against the importation and use of adulterated drugs), *American Druggist* 109, 1944 (No. 3, March);

"The Fiftieth Anniversary of the Death of John Michael Maisch," *Amer. Journ. Pharm.* 116, 1944 (No. I, January);

"The Development of the Pharmaceutical Textbook, a Synopsis," *Am. Journ. Pharm. Ed.* 8, 1944 (No. 3, July);

College of Pharmacy Associations," *Am. Journ. Pharm. Ed.* 8, 1944 (No. 3, July).

IV. *Pictorial History of Pharmacy*

The publication of historical pages in the *American Professional Pharmacist* has been continued. Since the time after the third report of the Director of the Institute (See *Am. Journ. Pharm. Educ.* 7, 1944, No. 4, October, and the reprint sent to the members of the Institute), pictures and explanatory notes concerning the following topics have been published:

Florentine Pharmacopœia of 1573.....	9, No. 7, July 1943
Florentine Pharmacopœia of 1789.....	9, No. 8, August 1943
Valerius Cordus (1515-1544).....	9, No. 9, September 1943
Dispensatorium Valerii Cordi 1546.....	9, No. 10, October 1943
Dispensatorium Valerii Cordi 1568.....	9, No. 11, November 1943
Dispensatorium Valerii Cordi 1652.....	9, No. 12, December 1943
Dispensatorium Valerii Cordi 1666.....	10, No. 1, January 1944
Basilius Besler (1561-1624), Pharmacist and Botanist.....	10, No. 2, February 1944
The Augsburg Pharmacopœia of 1564.....	10, No. 3, March 1944
The Augsburg Pharmacopœia of 1613.....	10, No. 4, April 1944
Preparation of Theriaca.....	10, No. 5, May 1944
Pharmaceutical Texts of Jean de Renau, in Latin (1608) and in French translation.....	10, Nos. 6 and 7, June and July 1944

V. *Addresses and Exhibitions*

On the occasion of the meeting of District 4 of the Boards and Colleges of Pharmacy held at Madison, Wisconsin, on May 1 and 2, 1944, an exhibition was shown giving an idea of "The Development of the Pharmaceutical Textbook in Italy, France, Spain, Germany, England and the United States of America." Before the same group the Director of the A. I. H. P. read a paper on "The History of District 4 of Boards and Colleges of Pharmacy." On May 23, 1944, the Director addressed the Michigan Branch of the American Pharmaceutical Association at Detroit, Michigan.

Other talks were given during the year before various student and civil groups.

VI. *Bibliography*

On the instigation of Dr. C. O. Lee, Chairman of the Committee on Libraries of the American Association of Colleges of Pharmacy, the Director of the American Institute of the History of Pharmacy compiled a *Select Bibliography on History, Ethics, and Literature of Pharmacy*. In all probability this bibliography will be published in the American Journal of Pharmaceutical Education. The members of the Institute will be furnished with reprints.

VII. *Castiglioni "Festschrift"*

The Director of the Institute was honored by an invitation to cooperate in a "Festschrift" containing contributions of the foremost contemporary historians of medicine and science and intended to be published on the occasion of the seventieth birthday of the meritorious historian of medicine Arturo Castiglioni, formerly Professor at the University of Padua, now at Yale University. This opportunity to present pharmacy side by side with the related sciences was gladly made use of. Unfortunately, the publication was delayed because of difficulties in the procurement of paper and in getting the books bound. The essay of the Director of the Institute is entitled "Retail Pharmacy as the Nucleus of Pharmaceutical Industry." It is intended to furnish the members of the Institute with reprints.

VIII. *Correspondence and Historical Information*

The correspondence of the Director of the Institute underwent a gradual change not as much as to the numbers of letters, etc., received and written but as to their kind. There was a decrease in letters from pharmacists and pharmacy students which finds its explanation in the present emergency, and a considerable increase in inquiries, etc., on the part of people outside of pharmacy, physicians, chemists, people active in writing for newspapers and journals, etc.

The assistance of the Director in questions belonging (or thought to belong) to the field of the history of pharmacy was asked for and given in still more cases than during the year before. Furthermore these cases were in general more important. It was on the basis of real and helpful cooperation with both parties being beneficiaries that a still closer connection developed between the American Institute of the History of Pharmacy on the one side and the Johns Hopkins Institute of the History of Medicine or the History of Science Society respectively on the other.

In his capacity as a member of the committee compiling the annual "Bibliography of the History of Medicine in the United States and Canada," published in the Bulletin of the History of Medicine, the Director of the A. I. H. P. has for the 1943 issue again contributed the list of publications concerning pharmacy (Bull. Hist. Med. 15, 1944:538-541).

IX. *Connection With Abroad*1. *South America.*

There exists now a regular exchange of publications between the American Institute of the History of Pharmacy and the meritorious Di-

rector of the Institute of the History of Medicine at the University of Buenos Aires and Editor of the "Revista Argentina De Historia De La Medicina." Professor Juan Ramon Beltrán.

A very pleasant and fruitful exchange of publications (and of opinion) exists, furthermore, between the Director of the A. I. H. P. and Dr. Pablo Osvaldo Wolff, internationally known expert and historian in all questions of drug addiction and Editor of "*La Prensa Medica Argentina*."

Very interesting historical papers were received by Professor Francisco Cignoli, Universidad Nacional Del Litoral, Rosario, Argentina, and from Dr. Carlos Henrique Liberalli, Instituto Medicamenta, Fontoura and Serpe, Las Paulo. Brazil.

2. England.

The connections of the Institute with the Pharmaceutical Society of Great Britain continued to be pleasant and fruitful.

3. Australia.

An exchange of publications was started with the School of Public Health and Tropical Medicine (Professor Harvey Sutton) at the University of Sydney.

X. Future Plans

Among the future plans the following items are foremost:

1. The cooperation of the A. I. H. P. in the period of reconstruction after the war.
2. The publication of a biography of the late Dr. Edward Kremers.
3. The revival of the annual Seminar of the A. I. H. P.

The collection and preparation of material for a History of Pharmaceutical Education in the United States will be continued.

All the features which have become in some way the routine work of the A. I. H. P. as for instance, the historical page in the American Professional Pharmacist, the addresses and papers of the Director, the correspondence and historical assistance and information will be taken care of as before.

New tasks will be welcomed and approached as they arise and prove worthy of attention.

The aim of the American Institute of the History of Pharmacy will remain unchanged. It tends to make the pharmacist be and feel as a citizen of the world of intelligence, science and responsibility at large and to secure for him the benefits of this citizenship within and without his profession.

D. Report of the Treasurer

The treasurer, Mr. Sylvester H. Dretzka, expressed his satisfaction about the growing recognition and support that the A. I. H. P. has found among the members of wholesale and manufacturing pharmacy. In the fact that the number of individual members is still very low, he saw an-

other proof for the necessity of the Institute, the educational work of which has just begun and has still not reached the masses of the American retail druggists.

Mr. Dretzka submitted the following:

FINANCIAL REPORT FOR FISCAL YEAR BEGINNING JULY 1,
1943. AND ENDING JUNE 30, 1944

Receipts

Cash in Bank—July 1, 1943.....		\$1,197.74
Receipts—Memberships—Individual	\$ 270.00	
—Constituent	75.00	
—Supporting	50.00	
Dr. Urdang from Honorariums.....	615.00	
Sale of Scheele Brochures.....	59.95	
Special Contributions:		
Wisconsin Wholesale Druggists—\$2,000.00		
namely:		
McKesson-Robbins Co.	500.00	
F. Dohmen Co.	400.00	
Yahr-Lange, Inc.	800.00	
Mutual Drug Co.	300.00	
Dane County Druggists, Wisconsin.....	103.17	
Abbott Laboratories, Chicago, Ill.....	500.00	
Gustavus A. Pfeiffer, New York, N. Y.....	2,500.00	
Total Receipts.....		6,173.12
TOTAL		\$7,370.86

Disbursements

Dr. Urdang, Director—Salary	\$2,300.00	
—Travel Expenses.....	126.90	
Expenses—Council Members.....	51.62	
Printing and Stationery.....	35.75	
Brochures and Reprints.....	15.11	
Photos and Mounting.....	25.50	
Corporate Seal.....	5.75	
Book Premium.....	3.50	
Dues—American Institute of the History of Medicine.....	10.00	
Total Disbursements.....	\$2,574.13	
Cash in Bank—June 30, 1944.....	4,796.73	
TOTAL		\$7,370.86

Sylvester H. Dretzka,
Treasurer

Following the report of the treasurer, Dr. Urdang expressed his gratitude for the never failing readiness of Mr. Dretzka to give his serv-

ices to the Institute and to take advantage of every opportunity which could lead to financial support.

On motion of Dr. Lee, seconded by Dr. Jack E. Orr, the reports of the President, the Secretary, the Director and the Treasurer were unanimously accepted.

E. Miscellaneous

Following the presentation of samples of the publications of the Institute to be expected in the course of the next months—see the second paragraph in the report of the Director—, there developed a lively discussion in which a series of questions were put and answered. No suggestions as to a change of policy were offered. On the contrary, those present agreed in their appreciation of the work done by the A. I. H. P. and in their approval of the way in which the Institute has been conducted.

The meeting was adjourned at 5:15 P. M.

George Urdang, Director

The Twenty-second Annual Plant Science Seminar*

The Twenty-Second Annual Plant Science Seminar was held at the School of Pharmacy of Western Reserve University, at Cleveland, Ohio, September 5-6, 1944. Streamlined programs seem to be the order of the day, and as last year, the usual five-day program was condensed into two days. Five sessions were held: three on Tuesday and two on Wednesday. Outstanding events on the 1944 program were a Seminar Dinner held at the Tudor Arms Hotel and addressed by Mr. Edward Blythin, Vice-President of Western Reserve University, and Dr. Arthur B. Williams of the Cleveland Museum of Natural History and ecologist for the Cleveland Metropolitan Park System; a tour through the Cleveland Branch of the Army Medical Library under the direction of Major Thomas E. Keys, Officer-in-Charge and an all-day visit to Squire Valleeve Farm, the outdoor teaching laboratory for botany and pharmacognosy maintained by Western Reserve University. Talks by Dr. Hodgman Stone and other members of the staff of Western Reserve were enjoyed by the members, and the usual round-table discussions were held.

Of the many appealing features offered by the Plant Science Seminar, not the least is the opportunity to visit and study the flora of widely scattered localities throughout the United States. The local secretary of the Seminar arranges to have available authorities on the local flora who offer the members, in the short time usually available, a survey of

* A complete report of the 22nd Annual Plant Science Seminar will be found in the Proceedings Number (November 1944) of the Scientific Edition of the Journal of the American Pharmaceutical Association.

the plant life of the region, and assist them in finding specimens of particular interest. This year the Seminar had the privilege of hearing Dr. Arthur Williams, who described the development of the forests in northern Ohio, and Dr. Hodgman Stone, whose excellent kodachromes of the plant life of the region were a delight to all.

All pharmacognosists are interested in herbals and in the early literature of plant lore. In the Army Medical Library the members had the unusual opportunity of seeing some 25,000 books and Arabic Manuscripts among which were 500 or more, printed in the 15th century.

On Wednesday, an all-day visit to the Squire Valleevue Farm with Dr. Franklin Bacon as the genial host and Mrs. Bacon as the charming and gracious hostess, was a rare delight to all privileged to attend. This farm comprises some 277 acres, of which over 100 are still in natural unspoiled woodland. The remaining 177 acres are in fields, pastures and orchards, some thirty acres being devoted to the culture of medicinal plants. Acres of digitalis are grown to supply Lakeside Hospital and hundreds of other species are cultivated for experimental purposes.

The wooded acres comprise the botanical garden and are traversed with a network of paths along which Dr. Bacon has naturalized hundreds of medicinal plants. Here the student may see and study these plants, growing unmolested in their natural habitat. At the time of the Seminar's visit the Colchicums were blooming in profusion in their woodland setting.

The Squire Valleevue Farm is maintained by Western Reserve University as a teaching center, a recreational center and as an experimental farm for use in connection with botany and pharmacognosy. Western Reserve University is indeed to be commended for establishing this outdoor laboratory for its students in pharmacy. Here the student has the splendid advantage to study medicinal plants growing in their natural state and under cultivation; to work in this outdoor laboratory and to observe the preparation of the drug from the growing plant and its final transition into the finished pharmaceutical. The opportunity to observe the factors which make for the highest quality in the drug is indeed an educational privilege. How different from those schools whose Deans think that pharmacognosy consists merely of learning Latin titles and botanical sources. Dr. Bacon is also to be commended for the wealth of material he has introduced and naturalized.

The Squire Valleevue Farm also supplies hundreds of bushels of potatoes and apples to the University's cafeterias and dormitories. Among its many desirable features is a recreation building where University groups may hold their outings and picnics.

Over 60 members and guests attended the twenty-second annual meeting, which in the light of difficult transportation, accelerated programs in session and the usual exigent affairs of war-time, represented an unusually large attendance. Representatives from twelve Association schools were in attendance: the University of Connecticut, the University of Illinois, the Indianapolis College of Pharmacy, the State University of Iowa, the University of Maryland, the Massachusetts Col-

lege of Pharmacy, the University of Nebraska, the North Dakota State Agricultural College, the Ohio State University, Western Reserve University, the University of Pittsburgh and West Virginia University. In addition representatives from the University of Alberta, from the Food and Drug Administration, from the American Medical Association Laboratories, from the National Wholesale Druggists Association, from Eli Lilly and Company, from Parke, Davis and Company and from S. B. Penick and Company were also present.

The Plant Science Seminar is the only organization representing pharmacognosy in the United States. It is gratifying to observe that association laboratories, government laboratories and manufacturers are annually sending representatives to its meetings, but it is quite regrettable to observe that but a bare twenty per cent of the schools and colleges holding membership in the A. A. C. P. had staff members at the twenty-second annual meeting.

Elmer H. Wirth, Secretary

To Whom the Message of Pharmacy Week?

Another Pharmacy Week is now in progress. During this week special efforts are being expended for focusing the attention of the public on the professional side of the corner drug store. This is done, of course, for the purpose of elevating the profession in the public esteem.

To accomplish this end, leading periodicals are carrying special features, radio programs are presenting special appeals, pharmaceutical associations are fostering special contests and other promotional schemes, and we pharmacists are being called upon to portray our professional character in special window and counter displays and in other ways. The value of such a concentrated campaign to project Pharmacy into the public consciousness cannot be questioned.

But it is entirely possible that all of these efforts are misdirected and will come to naught. It is possible that a greater and more lasting effect might be realized if the effort were directed to and brought to bear solely upon us, the pharmacists. Perhaps it is to us that the message of Pharmacy Week should be emphasized in order that each of us might help in bringing about the elevation of the profession through his actions and practices throughout the year.

Too many pharmacists consider the professional side of their calling as a privilege which will come to them in spite of anything that they might do to discourage such trust by the public. Many others recognize their privilege but forget that privilege is always accompanied by responsibility.

The divergence between the preachings and practices of many of these pharmacists constitutes an insult to the public intelligence. It is as though they expect that during times such as Pharmacy Week some miraculous soporific will be administered to the public in quantity suf-

ficient not only to produce a complete public amnesia to past events but also to promote a prolonged anesthesia which will favor oversight or forgetfulness of things yet to come.

Reputation, whether personal or professional, is an intangible thing, built very slowly and with infinite care over a period of years but capable of being entirely ruined during one thoughtless moment. Professional reputation can be built only upon the solid foundation of sincere and whole-hearted cooperation of all who engage in the profession. Furthermore, once built it must be jealously guarded, from within as well as from without.

Pharmacists themselves must be the ones who labor to build the reputation of Pharmacy. All pharmacists must cooperate to this end. There can be no place in the program for the lazy or apathetic who wish only to sit back and enjoy the fruits of the labors of others. These, together with the disgruntled and the insincere, work only toward professional oblivion. Unfortunately, each of these represents the entire profession in his own community, and the reputation of the practice cannot be higher than the standards of the practitioner.

It is only when ALL pharmacists will conduct themselves and their establishments in a strictly ethical and professional manner, not during one week of the year but throughout every hour of every day of every week, that we will deserve to receive and retain the public recognition for which we clamor. When that goal has been attained, Pharmacy will have reached its rightful place in the sun, Pharmacy Week will be every week, and special observances will be as unnecessary to us as they are to the other professions.

George E. Crossen,
Drake University

Scientific and Educational Papers Published by the Faculties of the Colleges of Pharmacy During the Calendar Year 1943

University of Illinois, College of Pharmacy

Kirch, E. R.

Determination of p-Aminobenzoic Acid. With O. Bergeim. *Journal of Biol. Chem.* 148, 455 (1943).

Excretion of Thiamine, Riboflavin, Niacin, and Pantothenic Acid in Human Sweat. With T. Cornbleet and O. Bergeim. *Journal A. M. A.*, 122, 426 (1943).

Determination of Nicotinic Acid. With R. Martinek and G. L. Webster. *Journal Biol. Chem.*, 149, 245 (1943).

Ascorbic Acid in Sweat. With T. Cornbleet and O. Bergeim. *Proc. Soc. Exp. Biol. and Med.*, 54, 307 (1943).

Maher, F. T.

Pharmacologic Development of Sulfonamides, *Ann. Otol Rhin. and Laryng.*, 52, 165 (1943).

Mechanism of Action of Sulfonamide Drugs, *Hospital Management*, 56, 70 (1943).

Shkolnik, Samuel

Sales Tax on Prescriptions. *Drug Progress*, March, pages 9-10.
Narcotic Drugs and Records. *Drug Progress*, September, page 14.

The Pharmacy Corps. *Drug Progress*, October, pages 13 and 21.
Fair Trade and O. P. A. *Drug Progress*, November, page 12.
Current Income Tax Reports. *Drug Progress*, December, page 11.

Templeton, Lawrence

Manufacturing in the Hospital Pharmacy. *Journal A. Ph. A., Practical Edition*, Vol. IV, No. 11 (1943).

Considerations Governing Manufacturing in the Hospital Pharmacy. *Hospital Management*, January, 1944. (A reprint of "Manufacturing in the Hospital Pharmacy" from *Journal A. Ph. A., Practical Edition*, Vol. IV, No. 11 (1943)).

Preparacion de Productos Farmaceuticos en el Hospital. *El Farmaceutico*, April, 1944, Vol. XX, No. 4, 38. (A reprint in Spanish of an article appearing in *Journal A. Ph. A., Practical Edition*, Vol. IV, No. 11 (1944)).

Terry, R. E.

Report of the Committee on Educational and Membership Standards of the American Association of Colleges of Pharmacy for 1943. *Amer. Jour. of Pharmaceutical Education*, Vol. 7, 497 (1943).

Webster, G. L.

Determination of Nicotinic Acid. With E. R. Kirch and R. G. Martinek. *Jour. Biol. Chem.*, 149, 245 (1943).

Wirth, E. H.

Pine Oil. *N. F. Bulletin*, 9, 168 (1943).

Proceedings of the 20th Plant Science Seminar. *Jour. A. Ph. A., Scientific Edition*, 32, 442 (1943).

Proceedings of the 21st Plant Science Seminar. *Jour. A. Ph. A., Scientific Edition*, 32, 443 (1943).

Bulletins of the Sub-committee on Pharmacognosy, of the N. F. Revision Committee.

Long Island University, Brooklyn College of Pharmacy

Cheney, Ralph H.

Medicinal Uses of Drug Plants Cultivated in the Medicinal Plant Garden of the Brooklyn Botanic Garden. *Brooklyn Botanic Garden Record*, Vol. 32, No. 3, 187 (1943).

University of Minnesota, College of Pharmacy

Gisvold, Ole and Rogers, C. H.

The Chemistry of Plant Constituents (Revised edition). Burgess Publishing Company, Minneapolis, 1943. 484 pages.

Rogers, C. H.

Inorganic Pharmaceutical Chemistry (Revised edition). Lea and Febiger, Philadelphia, 1943. 638 pages.

Oregon State College, School of Pharmacy

Henry, Frank R.

A Constant Level Device for Water Baths. The Chemist Analyst (J. T. Baker Chemical Co.).

Stuhr, E. T., Christensen, B. E., and Wong, Edgar

Assay of Oregon Ergot. Jour. A. Ph. A., Scientific Edition, Vol. XXXII, No. 9. 241 (1943).

Philadelphia College of Pharmacy and Science

Cook, E. Fullerton

Pharmacy a Profession. Am. J. Pharm., 115, 147 (1943).

Two Decades of U. S. P. Vitamins. Ibid., 115, 147 (1943).

Gershenfeld, Louis

Sterile Medicaments. Am. J. Pharm., 115, 5 (1943).

Griffith, Ivor

William Procter, Jr., Father of American Pharmacy. Am. J. Pharm. 115, 406 (1943).

Haas, Theodor Phillip

If Two Do the Same (The Convergence in Stem Succulents).

Cactus and Succulent Journal, Dec., 1943.

The Life Work of a Great Botanist. Parks and Recreation, May, June, 1943.

The Botanical Garden of Munich-Nymphenburg. Ibid., March, April, 1943.

Slants on Plants. Ibid., Jan., 1943.

Harrisson, Joseph W. E. and LeGalley, D. P.

Improvement of Color Vision by Vitamin Intake. Am. J. Pharm., 115, 95 (1943).

LeGalley, Donald P. and Harrisson, J. W. E.

Improvement of Color Vision by Vitamin Intake. Am. J. Pharm., 115, 95 (1943).

Purdue University, School of Pharmacy

Brodie, D. C.

A Preparatory Course in X-ray Technic. American Journal of Pharmaceutical Education 7, 375 (1943).

DeKay, H. G. and Baron, Bertha

Preparations of Phenyl Mercuric Benzoate and Their Bactericidal Value. Jour. A. Ph. A. 32. 294 (1943).

DeKay, H. G. and MacAulay, W. C.

How to Make an Inexpensive Drying Cabinet. Jour. A. Ph. A., Practical Edition, 4, 407 (1943).

DeKay, H. G. and Kendall, Harry L.

Sulfa Drugs. Bulletin, Indiana Pharmaceutical Association, October, 1943.

Jenkins, Glenn L. and Hartung, Walter H.

The Chemistry of Organic Medicinal Products. 675 pages, John Wiley and Sons, Inc., New York, 1943.

Jenkins, Glenn L. and Murphy, H. W.

Synthesis of Compounds Related to Lysergic Acid. *Jour. A. Ph. A., Scientific Edition*, 32, 85 (1943).

Jenkins, Glenn L.

Topical Sulfanilamide Therapy. *The Indiana Pharmacist*, 25, No. 7, 280 (1943).

Modern Pharmaceutical Practice. *The Indiana Pharmacist*, 25, No. 8, 328 (1943).

Drugs from Molds. *The Indiana Pharmacist*, 25, No. 10, 398 (1943).

Malaria and Antimalarials. *The Indiana Pharmacist*, 25, No. 11, 421 (1943); *Ibid.*, No. 12, 470.

Lee, C. O.

A Story of Soap. *Purdue Pharmacist*, 2D, 54 (1943).

Lee, C. O. and Johnston, G. W.

A Study of Hydrophile Ointment Bases. *J. Am. Pharm. Assoc., Scientific Edition*, 32, 25 (1943).

A Radioactive Method of Testing Absorption from Ointment Bases. *J. Am. Pharm. Assoc., Scientific Edition*, 32, 278 (1943).

Lee, C. O. and Wiebelhaus, Virgil

A Study of the Precipitation in Fluidextract of Senna. *J. Am. Pharm. Assoc., Scientific Edition*, 32, 165 (1943).

State College of Washington, School of Pharmacy

Gilliland, H. V., Kaufman, K. L. and Bang, H.

A Study of the Assays of the Powdered Extracts of Certain Salanaceous Drugs. *J. Am. Pharm. Assoc.*, 32, 326 (1943).

Special Lectures:

White, A. I.

"The Production and Development of Cosmetics in the Drug Store."

"Adjusted Solutions."

Both presented at the Summer School of the Pharmaceutical Association of British Columbia in June, 1943.

Human Interest Notes

Dr. Edwin D. Lyman, son of Dean and Mrs. R. A. Lyman, was graduated from the College of Medicine of the University of Nebraska at the September commencement. He began his service as an intern in the Medical College of Virginia Hospital on October 1.

Dr. Charles V. Netz of the University of Minnesota attended the annual meeting of the American Association for the Advancement of Science which was held at Cleveland the week following the pharmacy meetings.

Dean Charles H. Rogers, University of Minnesota, attended a meeting of the Committee on Pharmacists in Government Service in Washington on August 21-22.

Dr. George Urdang, Director of the American Institute of the History of Pharmacy, attended the meeting of the National Wholesale Druggists Association in New York in September.

Professor and Mrs. W. D. Richtmann of the University of Wisconsin spent a summer month in Golden, Colorado, with their son, William, who is an instructor in the Colorado School of Mines.

Lt. David Schlichting, son of Dean Schlichting, St. Louis College of Pharmacy, now on active duty in France, was one of the first twenty successful candidates for a commission in the newly formed Pharmacy Corps of the United States Army.

Mr. Robert Lind, president of St. Louis College of Pharmacy, has recovered from a recent operation for which we are grateful and Mr. Frederick Sultan, treasurer, has been ill for several months and for him we pray for a speedy recovery.

Anthony De Gaspari, 1942, Brooklyn College of Pharmacy, has been awarded the Soldier's Medal and a citation for heroism in Naples, Italy.

Marjorie N. Pickett, PhM 1/c, University of Colorado, 1940, is in charge of the pharmacy of the naval hospital at Mare Island. This pharmacy compounds on the average of 2,000 prescriptions daily.

While enroute to the Cleveland meetings, Prof. D. W. O'Day visited his cousin, John Detweiler, who is chief engineer for the water department of the city of Omaha and while in Cleveland he visited with Miss Grace Currie, a biology teacher in the Cleveland public schools who has been a frequent student at the University Science Lodge which was managed by Prof. O'Day during the summer months.

Dr. R. G. Gustavson, president of the University of Colorado, is recuperating after an appendectomy. Dean W. F. Dyde is carrying on the president's duties during his absence.

Arnold E. Mason, until a year ago was an instructor in the Creighton University College of Pharmacy, is now connected with the Food and Drug Administration in Washington as a pharmacologist and is engaged in research in biochemistry at Georgetown University.

Eleven members of the faculty and graduate students of Purdue University attended the Cleveland meetings.

Dr. C. J. Zufall of Purdue recently visited the School of Pharmacy of the University of Illinois in order to counsel with the members of the faculty on researches being carried on by them in their medicinal plant gardens.

Mr. Carl D. Lovotti of Lovotti's Professional Prescription Pharmacy of San Francisco has recently purchased the Ascoli collection of antique majalicas. He is now planning his post-war ideal prescription

pharmacy around this collection of Italian pharmacy ware and murals, now being painted, of Hippocrates, Procter, Scheele, and Pelletier.

For approximately a year Professor Zada M. Cooper has been engaged in writing a history of the College of Pharmacy of the State University of Iowa from its organization in 1885 to date. Miss Cooper's long and intimate connection with that institution qualifies her especially for that very worthwhile effort. When it is written we hope to see that she has included in it, not only the contribution of that unit of the university to the state's educational system but its contribution to pharmaceutical education throughout the nation as well. Without that contribution the history of the college of pharmacy would not be complete.

Announcement comes that Dr. and Mrs. Henry Baldwin Ward celebrated their golden wedding anniversary September 11, at their home at Urbana, Illinois. Dr. Ward was the first dean of the College of Medicine of the University of Nebraska and was largely responsible for the establishing of the College of Pharmacy in that institution. Later as permanent secretary of the American Association for the Advancement of Science he was active in promoting the Pharmacy Sub-section in that association. Since his retirement Dr. Ward has devoted his energies to the nation-wide effort of conserving wild life in America in which he, as a great lover of nature, has always been zealously interested. Since his retirement in 1933 from the chairmanship of the department of zoology of the University of Illinois, the Wards have continued to make their home in Urbana where they are one of the community's most respected and beloved couples.

Miscellaneous Items of Interest

New Books

Synopsis of Clinical Laboratory Methods by W. E. Bray, B. A., M. D., Professor of Clinical Pathology, University of Virginia; Director of Clinical Laboratories, University of Virginia Hospital; Third Edition, 1944. 528 pages. Illustrated. The C. V. Mosby Company, St. Louis. Price \$5.00.

This book in its third edition is just what the name implies—a concise, complete, factual synopsis of its subject. It has been eight years since the second edition was published and although the main form of the book has not been changed for this new third edition, portions have been rewritten and new material added. Additions have been made to the section on Parasites, to the section on Urinalysis, and to the section on Hematology. Other additions include the more recent tests for Rh, anti-Rh, cold agglutinins, sub-group incompatibilities, classification of streptococci, pathogenicity of staphylococci, and grouping of Salmonella. More text illustrations, color plates, and charts have been included. Special mention must be made of the beautiful color plates which add to the lucidity of the text material. The book is noteworthy in the fact that it is designed to give a maximum of helpful information in a minimum of time. K. K. K.

Resolutions and Recommendations*

Adopted by the American Pharmaceutical Association at Its
Ninety-Second Annual Meeting, Cleveland, Ohio
September 7-9, 1944

Recommendations of President Ivor Griffith

No. 3. Recipe Book—It is recommended that the Committee on Publications be directed to study the possibility of eliminating the Recipe Book as such, instituting in its place two separate publications: one, under a more dignified title, being distinctly a book of therapeutic agents and formulations, done in a dignified fashion and lending the authority of the Association to every monograph within its pages; the other, a modern compilation of technical and industrial formulas of practical use to the pharmacist.

Disposition—Approved by the Committee on Resolutions with the suggestion that it would be unwise to eliminate the Recipe Book but that the Committee on Publications should give careful consideration to the recommendations. This action was approved by the House of Delegates and the General Session. Referred by the Council to the Committee on Publications for action.

No. 7. Relations with Other Associations—It is recommended that a special committee of the Council be appointed to develop a plan whereby this Association finds means to assemble during the period of its annual convention the Presidents and Executive Secretaries of all the national pharmaceutical organizations, not just to inaugurate another formal organization but for the purpose of exchanging ideas and to develop a friendly, useful fusion of all elements in pharmacy.

Disposition—Approved by the Committee on Resolutions, with the suggestion that the proposed meeting be held during the winter months in Washington, D. C., and be sponsored jointly with the N. A. R. D. Adopted by the House of Delegates and General Session. Held in abeyance by the Council pending further consideration and discussion with N. A. R. D. officials.

No. 8. Pan-American Congress of Pharmacy—It is recommended that the American Pharmaceutical Association initiate and bring to fruition a Pan-American Congress of Pharmacy which shall include proper representation from Canada as well as from the South and Central American countries, the Congress to be held at the Headquarters Building of the A. Ph. A. The purpose of this Congress shall be to exchange ideas on a forthright, mutual basis, to improve pharmaceutical service and further to cement ties between the nations of the Western Hemisphere.

* Inasmuch as our space is limited and these resolutions will appear in full in the publication of the American Pharmaceutical Association we are selecting for printing only those which have a very special interest in and bearing upon the work of the American Association of Colleges of Pharmacy. There were 31 resolutions presented. In making this selection we have retained the original numbers.

Disposition—Approved in principle by the Committee on Resolutions. Adopted by the House of Delegates and General Session. Referred by the Council to the Committee on Policy and Planning for study in connection with a similar recommendation made by the Chairman of the N. F. Committee in connection with Pan-American drug standards.

Resolution from the Committee on Professional Relations

No. 9. National Council on Professional Relations—Resolved that the American Pharmaceutical Association endorse the organization of a National Council on Professional Relations to consist of representatives from the A. Ph. A., N. A. R. D., N. A. B. P. and A. A. C. P. which shall coordinate the professional relations activities of these various associations with the other public health professions and agencies.

Disposition—Approved by the Committee on Resolutions. Adopted by the House of Delegates and the General Session. Referred by the Council to the November Joint Meeting of the Council and the N. A. R. D. Executive Committee.

No. 12. National Pharmacy Committee on Public Information, Inc.

Resolved, That the A. Ph. A. express its approval of the principles and objectives of the National Pharmacy Committee on Public Information but urge that, in the formulation of its policies and programs, it seek the advice and guidance of the A. Ph. A., N. A. R. D., N. A. B. P. and A. A. C. P. in order that the course it pursues will be in accord with the views of experienced leaders of these long-established national associations.

Disposition—Approved by the Committee on Resolutions. Adopted by the House of Delegates and the General Session. Listed by the Council among actions already taken and called to the attention of officers of the A. A. C. P. and N. A. B. P.

**Resolution from the Committee on Status
of Pharmacists in Government Service**

No. 13. Army Pharmacy Corps—Resolved, That the A. Ph. A. request the Surgeon General of the United States Army to place the Pharmacy Corps, made possible by Congressional legislation last year, into effective operation immediately and that the complement of 72 officers made possible by this legislation be appointed without delay, and that the Pharmacy Corps be extended to the Army of the United States, and be it further,

Resolved, That we recommend that previous understandings with respect to assignment of inducted pharmacists to the Medical Department of the Army be carried out and that arrangements be made so that such pharmacists will relieve those men of limited experience and training who are now assigned to perform pharmaceutical functions.

Disposition—Approved by the Committee on Resolutions. Adopted by the House of Delegates and the General Session. Referred by the

Council to the Chairman of the Committee on Status of Pharmacists in the Government Service for action.

Resolutions from the Committee on Resolutions

No. 16. Pharmacy in the Navy—WHEREAS, the report of the Committee on the Status of Pharmacists in the Government Service indicates that appropriate measures have been instituted looking toward the improvement of pharmaceutical services in the Navy: therefore be it

Resolved, That the American Pharmaceutical Association in convention assembled express its appreciation of the cordial and understanding attitude of the Bureau of Medicine and Surgery of the United States Navy.

Disposition—Approved by the Committee on Resolutions. Adopted by the House of Delegates and the General Session. Transmitted by appropriate letter to the Surgeon General of the Navy upon vote of the Council.

**Resolution and Recommendations from the
Committee on Policy and Planning**

No. 19. Joint Committee on Physical Fitness—Resolved, That the American Pharmaceutical Association accept the invitation of the Joint Committee on Physical Fitness to participate in the national effort for the promotion of physical fitness among the civilian population and that the Committee on Policy and Planning be requested to investigate the possibilities of service to be rendered by American Pharmacy in this field and report a plan of procedure and action to the Council for action at the earliest possible date.

Disposition—Approved by the Committee on Resolutions. Adopted by the House of Delegates and by the General Session. Referred by the Council to the Committee on Policy and Planning for action.

No. 20. Fact-Finding Studies—It is recommended that one, two or all three of the following fact-finding studies be undertaken as soon as possible and that it be made a part of the duty of the administrative officers of the American Pharmaceutical Association to secure the funds and personnel with which to carry on such study or studies.

Study No. I

An over-all survey of the adequacy of Pharmaceutical Services supplied to the people of the United States through retail pharmacies and the development of recommendations for maintaining such services at the highest level of efficiency for the benefit of the public.

Study No. II

A survey of the extent to which present laws and regulations are adequate in providing protection for the people of the United States in the matter of distribution of drugs and medicines. This will include a study and analysis of State and Federal laws controlling drug distribution and a determination of the most efficient methods of utilizing the

services of pharmacists and avoiding indiscriminate and unsupervised drug distribution through trade agencies which are incompetent to assume responsibility for the proper distribution of materials directly affecting the life and health of the public.

Study No. III

A survey of the factors which influence the public and professional acceptance of pharmacists as men and women of scientific attainments. This will include ethical and professional concepts of the relation of pharmacy to medicine and public health not as viewed by pharmacists alone but also as viewed by scientists in related fields and by the intelligent public.

Disposition—The Committee on Resolutions recommended referral to the Council for favorable consideration. Approved by the House of Delegates and by the General Session. Referred by the Council to the Committee on Policy and Planning with instructions to submit an outline for a project based on Study No. II.

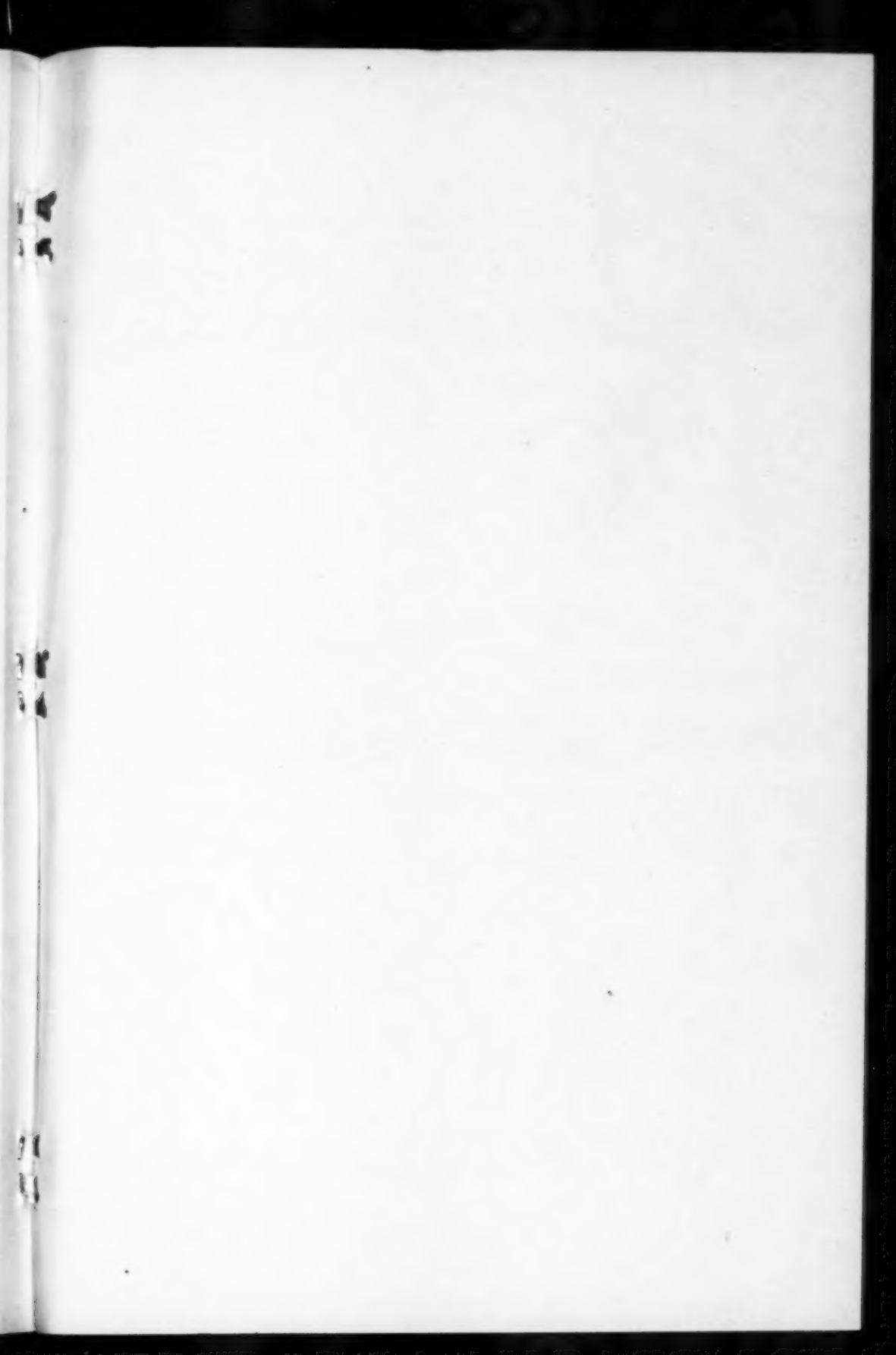
No. 21. Pharmacy in the U. S. Public Health Service—It is recommended that a committee of properly qualified pharmacists be put at the disposal of the United States Public Health Service to undertake a study of the organization of the United States Public Health Service and its functions which impinge upon pharmacy and make recommendations for the greater utilization of trained pharmaceutical personnel by the Public Health Service. Such a committee could also point out studies which the Public Health Service should undertake in the field of Pharmacy in order to establish uniform procedures in the handling of poisons, hypnotic drugs and dangerous or deleterious substances.

Disposition—Approved by the Committee on Resolutions. Adopted by the House of Delegates and the General Session. Held in abeyance by the Council pending a request for action from the U. S. Public Health Service.

Recommendation from the Address of Incoming President George A. Moulton

No. 28. Pharmaceutical Curriculum—I recommend that the American Pharmaceutical Association representatives on the "National Syllabus Committee" bring the importance of curriculum adjustments to meet present day pharmaceutical educational requirements to the very early attention of the committee now engaged in revising the Pharmaceutical Syllabus. This matter is more urgent now than ever, as we are about to enter the postwar period of education, with its manifold problems.

Disposition—The Council referred this to the seven A. Ph. A. members of the Committee on Pharmaceutical Syllabus for instruction and information.



INSTITUTIONS HOLDING MEMBERSHIP IN THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

Maryland

University of Maryland, School of
Pharmacy, Baltimore. (1900)
Andrew G. DuMen, Dean
(Andrew G. DuMen, E. Oliver Galt,
W. Arthur Furdum)

Massachusetts

Massachusetts College of Pharmacy,
Boston. (1900)
Howard C. Newton, Dean
(Howard C. Newton, H. W. Young-
man, J. H. Goodness, E. V. Lyons,
Ray S. Kelley)

Michigan

Detroit Institute of Technology and
College of Pharmacy and Chemistry, De-
troit. (1923)
Howard H. Hahn, Dean
(Howard H. Hahn, Richard A.
Biale)
Ferris Institute, College of Pharmacy,
St. Rapids. (1928)
Ralph A. Wilson, Dean
University of Michigan, College of
Pharmacy, Ann Arbor. (1900)
Howard B. Lewis, Dean
(C. H. Stocking, E. L. Ostrin,
L. P. Worrell)
Wayne University, College of Phar-
macy, Detroit. (1928)
Roland T. Laker, Dean
(Roland T. Laker, W. H. Wilson,
Arnold Lehman, E. R. Ostrin,
E. J. Mill)

Minnesota

University of Minnesota, College of
Pharmacy, Minneapolis. (1900)
Charles H. Rogers, Dean
(Charles H. Rogers, Charles V. Hall,
Charles G. Wilson, Hollis Brown)

Mississippi

University of Mississippi, School of
Pharmacy, Oxford. (1919)
Elmer L. Hammond, Dean
(Elmer L. Hammond)

Missouri

St. Louis College of Pharmacy, St.
Louis. (1900)
Arthur F. Schlichting, Dean
(Arthur F. Schlichting, George F.
Beddick, A. W. Faulstich)

*On leave of absence.

Minnesota

State University of Minnesota, School
of Pharmacy, Minneapolis. (1917)
Charles E. P. Mollath, Dean

Nebraska

Cumington University, College of
Pharmacy, Omaha. (1916)
William A. Jarrett, Dean
(William A. Jarrett)
University of Nebraska, College of
Pharmacy, Lincoln. (1913)
Rufus A. Lyman, Dean
(Rufus A. Lyman, H. G. O. Holch,
A. R. Schwartzing, Paul J. Jankin)

New Jersey

Rutgers University, The State Univer-
sity of New Jersey, New Jersey Col-
lege of Pharmacy, Newark. (1928)
Ernest Little, Dean
(Ernest Little, Martin S. Ulan,
G. G. Ulan, Paul G. Olson)

New York

University of Buffalo, School of Phar-
macy, Buffalo. (1923)
A. R. Lemon, Dean
(Arthur P. Wynn, Harold G. Hewitt)
Columbia University, College of Phar-
macy of the City of New York. (1923)
Charles W. Ballard, Dean
(Charles W. Ballard, C. P. Wynn,
F. D. Lascoff)
Fordham University, College of Phar-
macy, New York. (1929)
Charles J. Deane, Acting Dean
(Charles J. Deane)
Long Island University, Brooklyn Col-
lege of Pharmacy, Brooklyn. (1929)
Hugo H. Schneider, Dean
(Hugo H. Schneider)

North Carolina

University of North Carolina, School
of Pharmacy, Chapel Hill. (1917)
J. Grover Beard, Dean
(E. M. Burdette, M. L. Jacobel)

North Dakota

North Dakota Agricultural College,
School of Pharmacy, Fargo. (1922)
William F. Sudre, Dean
(William F. Sudre, Kenneth Bedman)

